Robert A. Caldwell
Wastewater Superintendent

City of Fredericksburg

P.O. Box 7447
Fredericksburg, VA 22404-7447
Telephone: 540 372-1077
Fax: 540 372-1089

Date: May 8, 2012

To: Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Attention: Anna T. Westernik

Subject: Renewal application submission of VPDES Permit No. VA0025127.

Dear Ms. Westernik

Please find enclosed the application documents for the City of Fredericksburg for the renewal of Permit No. VA0025127.

Sincerely,
Alan

Robert A. Caldwell
City of Fredericksburg
Superintendent – WWTF
(540) 372-1077

FACILITY NAME AND PERMIT NUMBER:
City of Fredericksburg WWTF/ Permit #VA0025127

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: City of Fredericksburg Waste Water Treatment Facilty

Mailing Address: P.O. Box 7447
Fredericksburg, Virginia 22404

Contact person: Robert Alan Caldwell

Title: Plant Superintendent

Telephone number: (540) 372-1077

Facility Address (not P.O. Box): Route #700 Beulah Salisbury Road
Fredericksburg, Virgina 22401

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: City of Fredericksburg

Mailing Address: P.O. Box 7447
Fredericksburg, Va. 22404

Contact person: Doug Fawcett

Title: Director of Public Works

Telephone number: (540) 372-1023

Is the applicant the owner or operator (or both) of the treatment works?

✓ owner _____ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✓ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES VA0025127
UIC _____
RCRA _____
PSD _____
Other _____
Other VAN020095, VAR051809

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
City of Fredericksburg	24,286	combined	municipal

Total population served 24,286

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✓ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✓ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate 4.5 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	3.09	2.88	3.01	mgd
c. Maximum daily flow rate	6.96	8.79	4.6	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✓ Separate sanitary sewer	100 %
_____ Combined storm and sanitary sewer	_____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✓ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent — i. _____
ii. Discharges of untreated or partially treated effluent — _____
iii. Combined sewer overflow points — _____
iv. Constructed emergency overflows (prior to the headworks) — _____
v. Other _____ — _____

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✓ No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✓ No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? ✓ Yes _____ No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

pipe

If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

_____

Contact person: _____

Title: _____

Telephone number: _____

For each treatment works that receives this discharge, provide the following:

Name: FMC WWTP

Mailing Address: 11801 Capital Lane
Fredericksburg, Va. 22408

Contact person: Doug Crooks

Title: Superintent

Telephone number: (540) 507-7362

If known, provide the NPDES permit number of the treatment works that receives this discharge. VA0068110

Provide the average daily flow rate from the treatment works into the receiving facility. 1.3 mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? _____ Yes ✓ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

_____

Annual daily volume disposed of by this method: _____

Is disposal through this method _____ continuous or _____ intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number 001

b. Location
City of Fredericksburg (City or town, if applicable) — 22401 (Zip Code)
(County) — VA. (State)
38 degrees 17' 18" N (Latitude) — 77 degrees 26' 57" W (Longitude)

c. Distance from shore (if applicable) 50 yards ft.

d. Depth below surface (if applicable) 5 feet ft.

e. Average daily flow rate 3.8 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✓ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: ____

Average duration of each discharge: ____

Average flow per discharge: ____ mgd

Months in which discharge occurs: ____

g. Is outfall equipped with a diffuser? ✓ Yes ____ No

A.10. Description of Receiving Waters.

a. Name of receiving water Rappahannock River

b. Name of watershed (if known) Lower Rappahannock Watershed/Chesapeake Bay Watershed

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): ____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 02080104

d. Critical low flow of receiving stream (if applicable):
acute ____ cfs chronic ____ cfs

e. Total hardness of receiving stream at critical low flow (if applicable): ____ mg/l of $CaCO_3$

FACILITY NAME AND PERMIT NUMBER:
City of Fredericksburg WWTF/ Permit #VA0025127

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A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

_____ Primary ✓ Secondary

✓ Advanced _____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	95	%
Design SS removal	93	%
Design P removal	77	%
Design N removal	N/A per-design	%
Other TKN	91	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet Disinfection

If disinfection is by chlorination, is dechlorination used for this outfall? _____ Yes _____ No

d. Does the treatment plant have post aeration? ✓ Yes _____ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.57	s.u.			
pH (Maximum)	7.24	s.u.			
Flow Rate	4.45	mgd	2.68	mgd	90
Temperature (Winter)	13.85	Celsius	12.83	c	93
Temperature (Summer)	24.14	Celsius	23.41	c	90

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5	N/A						
DEMAND (Report one)	CBOD-5	8.23	mg/L	3.31	mg/L	90	sm 5210	2/1
FECAL COLIFORM		38.4	mpn/100	17.68	mpn/100	90	Idexx-Colilert	
TOTAL SUSPENDED SOLIDS (TSS)		6.4	mg/L	2.65	mg/L	90	sm 2540d	2/1

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

Unknown gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ✓ Yes ____ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: Synagro Technologies, Inc.

Mailing Address: 7014 East Baltimore Street, Baltimore, Md. 21224

Telephone Number: (410) 284-4120

Responsibilities of Contractor: Operates sludge dewatering facilty

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____ Yes ____ No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

_____

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	___/___/_____	___/___/_____
– End construction	___/___/_____	___/___/_____
– Begin discharge	___/___/_____	___/___/_____
– Attain operational level	___/___/_____	___/___/_____

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes ____No

Describe briefly: _____

_____

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	0.35	mg/L	0.28	mg/L	3	4500NH3F	
CHLORINE (TOTAL RESIDUAL, TRC)							
DISSOLVED OXYGEN	7.91	mg/L	7.76	mg/L	3	Y51550A	
TOTAL KJELDAHL NITROGEN (TKN)	1.78	mg/L		mg/L	3		
NITRATE PLUS NITRITE NITROGEN	10.69	mg/L	4.67	mg/L	3	300.04500-NO2/c	
OIL and GREASE							
PHOSPHORUS (Total)	0.19	mg/L	0.15	mg/L	3	4500PE	
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✓ Basic Application Information packet

Supplemental Application Information packet:

✓ Part D (Expanded Effluent Testing Data)

____ Part E (Toxicity Testing: Biomonitoring Data)

✓ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Doug Fawcett, Director of Public Works

Signature: Doug Fawcett

Telephone number: (540) 372-1023

Date signed: MAY 1, 2012

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:
City of Fredericksburg WWTF/ Permit #VA0025127

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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
ARSENIC	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
BERYLLIUM	<.001	mg/L			<.001	mg/L			3	EPA 200.7	
CADMIUM	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
CHROMIUM	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
COPPER	.013	mg/L			.012	mg/L			3	EPA 200.7	
LEAD	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
MERCURY	<.002	mg/L			<.002	mg/L			3	SM-3112B	
NICKEL	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
SELENIUM	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
SILVER	<.005	mg/L			<.005	mg/L			3	EPA 200.2	
THALLIUM	<.005	mg/L			<.005	mg/L			3	EPA 200.7	
ZINC	.074	mg/L			.006	mg/L			3	EPA 200.7	
CYANIDE	<.005	mg/L			<.005	mg/L			3	SEAL EPA 130	
TOTAL PHENOLIC COMPOUNDS	<0.1	mg/L			<0.1	mg/L			3	SEAL EPA 117	
HARDNESS (AS $CaCO_3$)	73	mg/L			62mg/	mg/L			3	EPA 200.2	
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

FACILITY NAME AND PERMIT NUMBER:
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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN	<5	ug/L			<5	ug/L			3		
ACRYLONITRILE	<5	ug/L			<5	ug/L			3		
BENZENE	<1	ug/L			<1	ug/L			3		
BROMOFORM	<1	ug/L			<1	ug/L			3		
CARBON TETRACHLORIDE	<1	ug/L			<1	ug/L			3		
CLOROBENZENE	<1	ug/L			<1	ug/L			3		
CHLORODIBROMO-METHANE	<1	ug/L			<1	ug/L			3		
CHLOROETHANE	<1	ug/L			<1	ug/L			3		
2-CHLORO-ETHYLVINYL ETHER	<10	ug/L			<10	ug/L			3		
CHLOROFORM	5	ug/L			2.3	ug/L			3		
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE	<1	ug/L			<1	ug/L			3		
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE	<1	ug/L			<1	ug/L			3		
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE	<1	ug/L			<1	ug/L			3		
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE	<1	ug/L			<1	ug/L			3		
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE	<10	ug/L			<10	ug/L			3		
1,1,2,2-TETRACHLORO-ETHANE	<1	ug/L			<1	ug/L			3		
TETRACHLORO-ETHYLENE					<1	ug/L			3		
TOLUENE	<1	ug/L							3		

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE	<1	ug/L			<1	ug/L			3		
1,1,2-TRICHLOROETHANE	<1	ug/L			<1	ug/L			3		
TRICHLORETHYLENE											
VINYL CHLORIDE	<1	ug/L			<1	ug/L			3		
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL	<5	ug/L			<5	ug/L			3		
2-CHLOROPHENOL	<5	ug/L			<5	ug/L			3		
2,4-DICHLOROPHENOL	<5	ug/L			<5	ug/L			3		
2,4-DIMETHYLPHENOL	<5	ug/L			<5	ug/L			3		
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL	<5	ug/L			<5	ug/L			3		
2-NITROPHENOL	<5	ug/L			<5	ug/L			3		
4-NITROPHENOL	<10	ug/L			<10	ug/L			3		
PENTACHLOROPHENOL	<5	ug/L			<5	ug/L			3		
PHENOL	<5	ug/L			<5	ug/L			3		
2,4,6-TRICHLOROPHENOL	<5	ug/L			<5	ug/L			3		
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE	<5	ug/L			<5	ug/L			3		
ACENAPHTHYLENE	<5	ug/L			<5	ug/L			3		
ANTHRACENE	<5	ug/L			<5	ug/L			3		
BENZIDINE	<5	ug/L			<5	ug/L			3		
BENZO(A)ANTHRACENE	<5	ug/L			<5	ug/L			3		
BENZO(A)PYRENE	<5	ug/L			<5	ug/L			3		

FACILITY NAME AND PERMIT NUMBER:
City of Fredericksburg WWTF/ Permit #VA0025127

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE	<5	ug/L			<5	ug/L			3		
BENZO(GHI)PERYLENE	<5	ug/L			<5	ug/L			3		
BENZO(K)FLUORANTHENE	<5	ug/L			<5	ug/L			3		
BIS (2-CHLOROETHOXY) METHANE	<5	ug/L			<5	ug/L			3		
BIS (2-CHLOROETHYL)-ETHER	<5	ug/L			<5	ug/L			3		
BIS (2-CHLOROISO-PROPYL) ETHER	<5	ug/L			<5	ug/L			3		
BIS (2-ETHYLHEXYL) PHTHALATE	<5	ug/L			<5	ug/L			3		
4-BROMOPHENYL PHENYL ETHER	<5	ug/L			<5	ug/L			3		
BUTYL BENZYL PHTHALATE	<5	ug/L			<5	ug/L			3		
2-CHLORONAPHTHALENE	<5	ug/L			<5	ug/L			3		
4-CHLORPHENYL PHENYL ETHER	<5	ug/L			<5	ug/L			3		
CHRYSENE	<5	ug/L			<5	ug/L			3		
DI-N-BUTYL PHTHALATE	<5	ug/L			<5	ug/L			3		
DI-N-OCTYL PHTHALATE	<5	ug/L			<5	ug/L			3		
DIBENZO(A,H) ANTHRACENE	<5	ug/L			<5	ug/L			3		
1,2-DICHLOROBENZENE	<1	ug/L			<1	ug/L			3		
1,3-DICHLOROBENZENE	<1	ug/L			<1	ug/L			3		
1,4-DICHLOROBENZENE	<1	ug/L			<1	ug/L			3		
3,3-DICHLOROBENZIDINE	<5	ug/L			<5	ug/L			3		
DIETHYL PHTHALATE	<5	ug/L			<5	ug/L			3		
DIMETHYL PHTHALATE	<5	ug/L			<5	ug/L			3		
2,4-DINITROTOLUENE	<5	ug/L			<5	ug/L			3		
2,6-DINITROTOLUENE	<5	ug/L			<5	ug/L			3		
1,2-DIPHENYLHYDRAZINE	<5	ug/L			<5	ug/L			3		

FACILITY NAME AND PERMIT NUMBER:
City of Fredericksburg WWTF/ Permit #VA0025127

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE	<5	ug/L			<5	ug/L			3		
FLUORENE	<5	ug/L			<5	ug/L			3		
HEXACHLOROBENZENE	<5	ug/L			<5	ug/L			3		
HEXACHLOROBUTADIENE	<5	ug/L			<5	ug/L			3		
HEXACHLOROCYCLO-PENTADIENE	<5	ug/L			<5	ug/L			3		
HEXACHLOROETHANE	<5	ug/L			<5	ug/L			3		
INDENO(1,2,3-CD)PYRENE	<5	ug/L			<5	ug/L			3		
ISOPHORONE	<5	ug/L			<5	ug/L			3		
NAPHTHALENE	<5	ug/L			<5	ug/L			3		
NITROBENZENE	<5	ug/L			<5	ug/L			3		
N-NITROSODI-N-PROPYLAMINE	<5	ug/L			<5	ug/L			3		
N-NITROSODI- METHYLAMINE	<5	ug/L			<5	ug/L			3		
N-NITROSODI-PHENYLAMINE	<5	ug/L			<5	ug/L			3		
PHENANTHRENE	<5	ug/L			<5	ug/L			3		
PYRENE	<5	ug/L			<5	ug/L			3		
1,2,4-TRICHLOROBENZENE	<5	ug/L			<5	ug/L			3		
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

✓ chronic ____ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: 1 Test number: 2 Test number: 3

a. Test information.			
Test species & test method number	Already Submitted		
Age at initiation of test			
Outfall number			
Dates sample collected	6/9/08~6/13/08	9/21/09~9/25/09	8/23/10~8/27/10
Date test started	6/9/08	9/21/09	8/24/10
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

✓ chronic ____ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: 4 Test number: _____ Test number: _____

a. Test information.			
Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected	6/20/11~6/24/11		
Date test started	6/21/11		
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:			
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity			
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water			
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic:			
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes ✓ No If yes, describe: _____

_____

_____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

N/A

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✓ Yes ___ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 1

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Virginia Semiconductor

Mailing Address: 1500 Powhatan Street, Fredericksburg, Va. 22401

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Silicon crystal growth, grinding, slicing, lapping, polishing , oxidation (SIC) code 3339 - (NAICS) code 331419

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): crystal polishing

Raw material(s): boron, acetone, calcium ortho phosphate,caustic soda, arscnic

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

15,000 gpd (___ continuous or ✓ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

___ gpd (___ continuous or ___ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ✓ Yes ___ No

b. Categorical pretreatment standards ✓ Yes ___ No

If subject to categorical pretreatment standards, which category and subcategory?

(SIC) code 3339 - (NAICS) code 331419

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

____Yes____No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. _____

b. Number of CIUs. _____

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Rappahannock Goodwill Industries

Mailing Address: 480 Central Road, Fredericksburg, Va. 22401

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

landury wash and rinse water. (SIC) code 7213,7219 (NAICS) code 812331

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): high volumnes of landury wash and rinse water

Raw material(s): laundry detergent, sodium hydroxide, sodium carbonate, hydrofluosilicic acid, sodium hy

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

70,000 gpd (____continuous or ✓ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (____continuous or _____intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ✓ Yes ____No

b. Categorical pretreatment standards ____Yes ____No

If subject to categorical pretreatment standards, which category and subcategory?

(SIC) code 7213,7219 (NAICS) code 812331

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ✓ No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe? ____Yes ___No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units
N/A		

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ✓ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location

_____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ft.

d. Depth below surface (if applicable) _____ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

c. Give the average volume per CSO event.

_____ million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

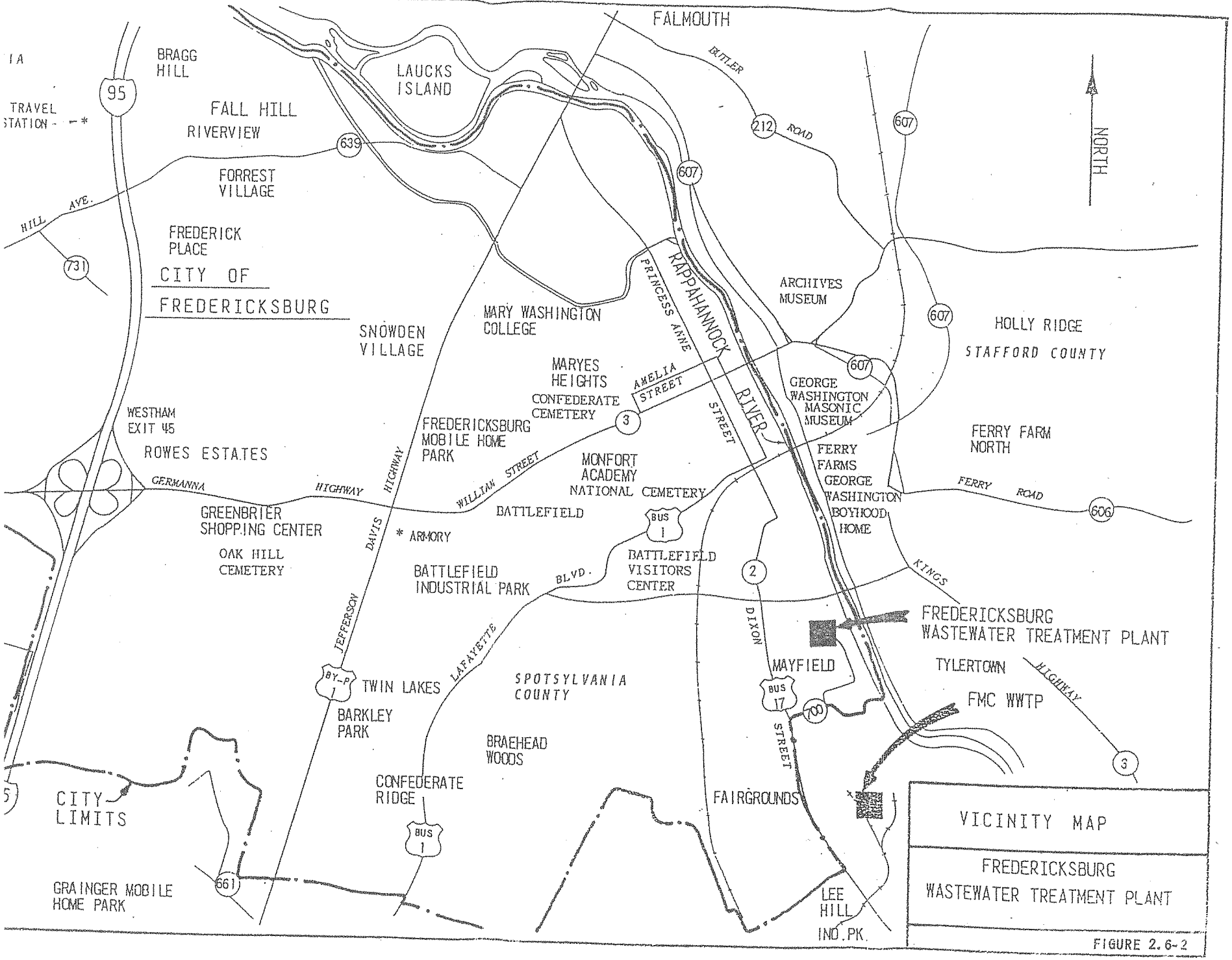
Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

Additional information, if provided, will appear on the following pages.



VICINITY MAP

FREDERICKSBURG
WASTEWATER TREATMENT PLANT

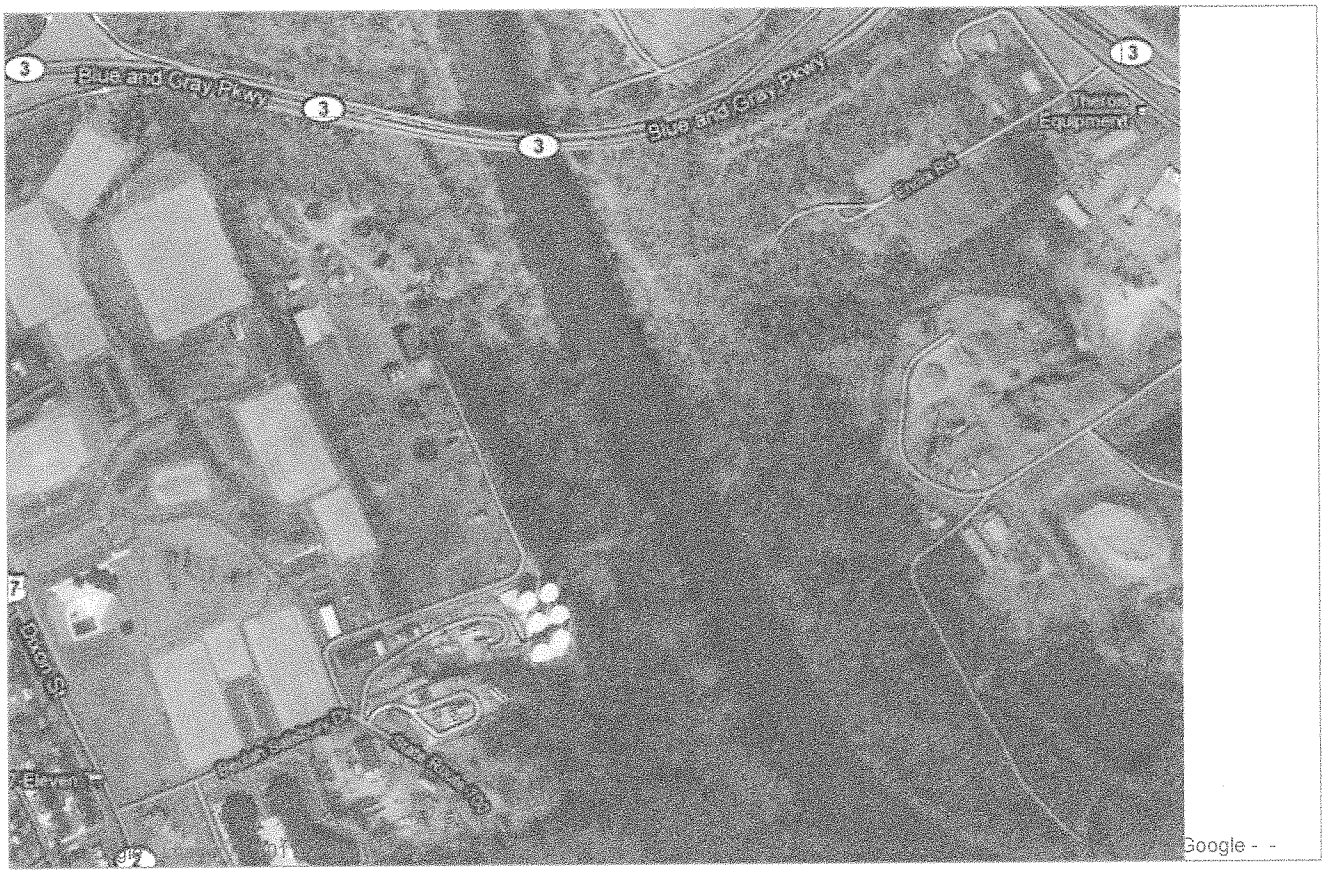
FIGURE 2.6-2

Google maps

To see all the details that are visible on the screen, use the "Print" link next to the map.

Google maps

To see all the details that are visible on the screen, use the "Print" link next to the map.



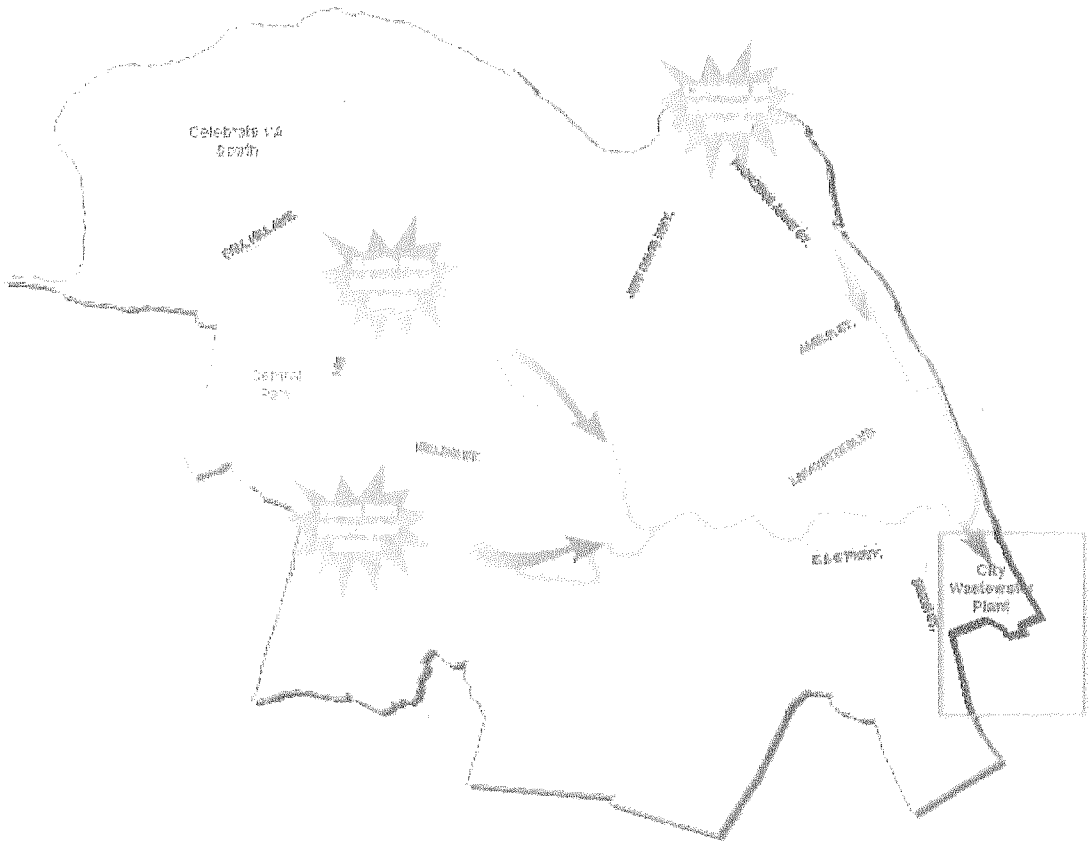


Figure 2-1 Fredericksburg WWTP Interceptor Sewer Systems

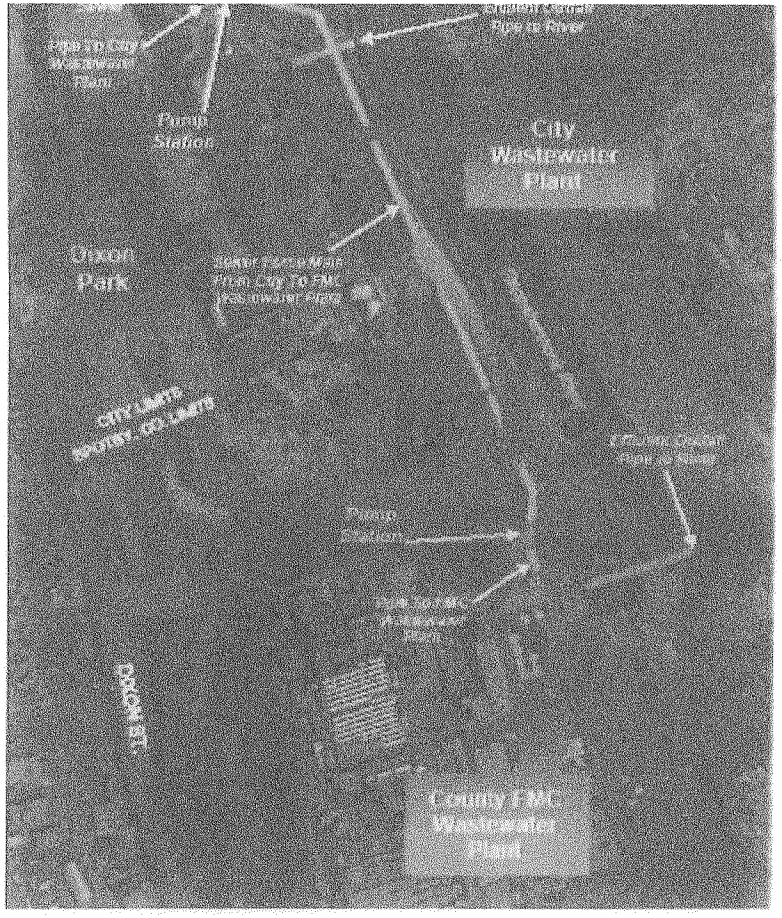


Figure 2-2 Overview of the Fredericksburg WWTP and the Spotsylvania County FMC WWTP

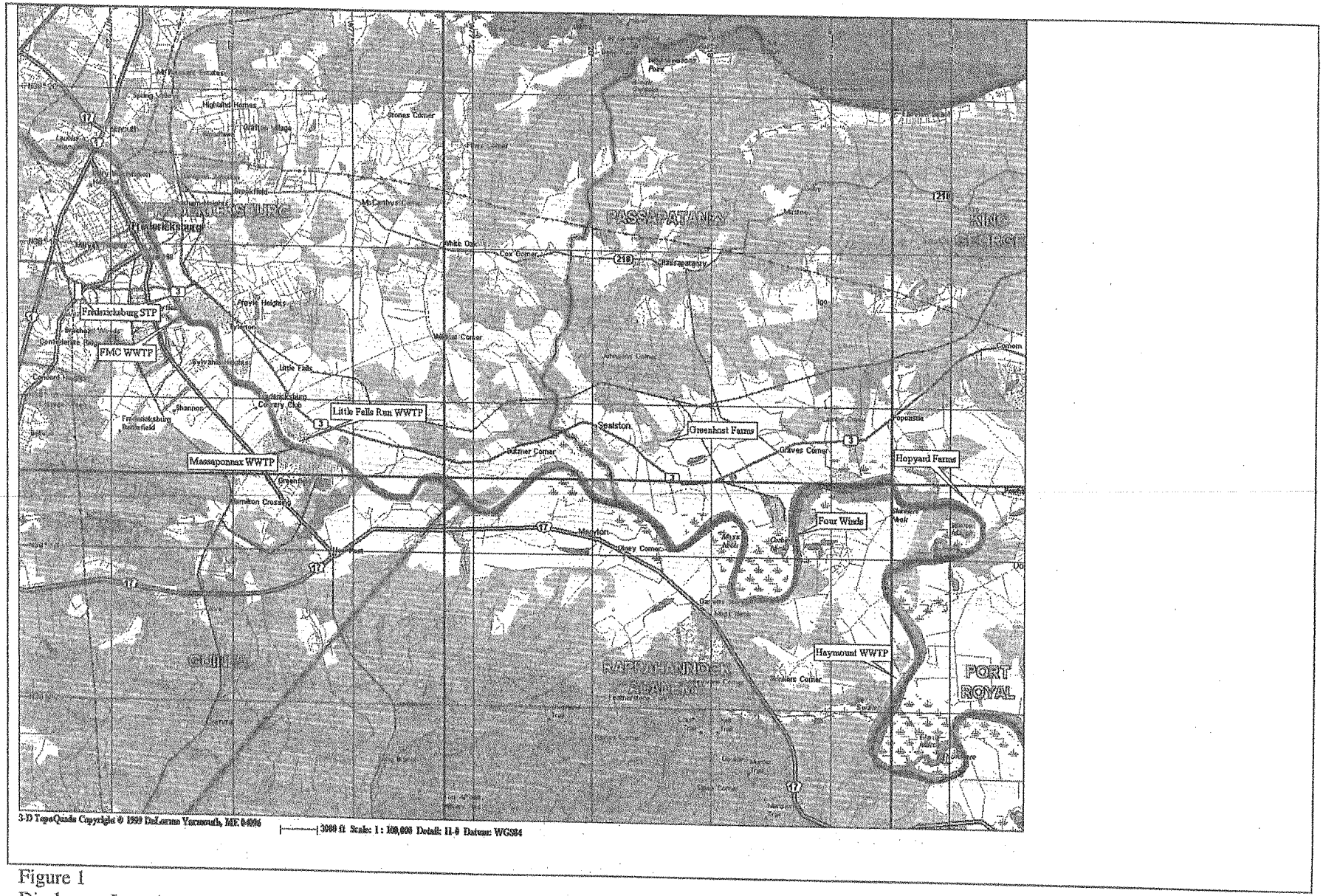
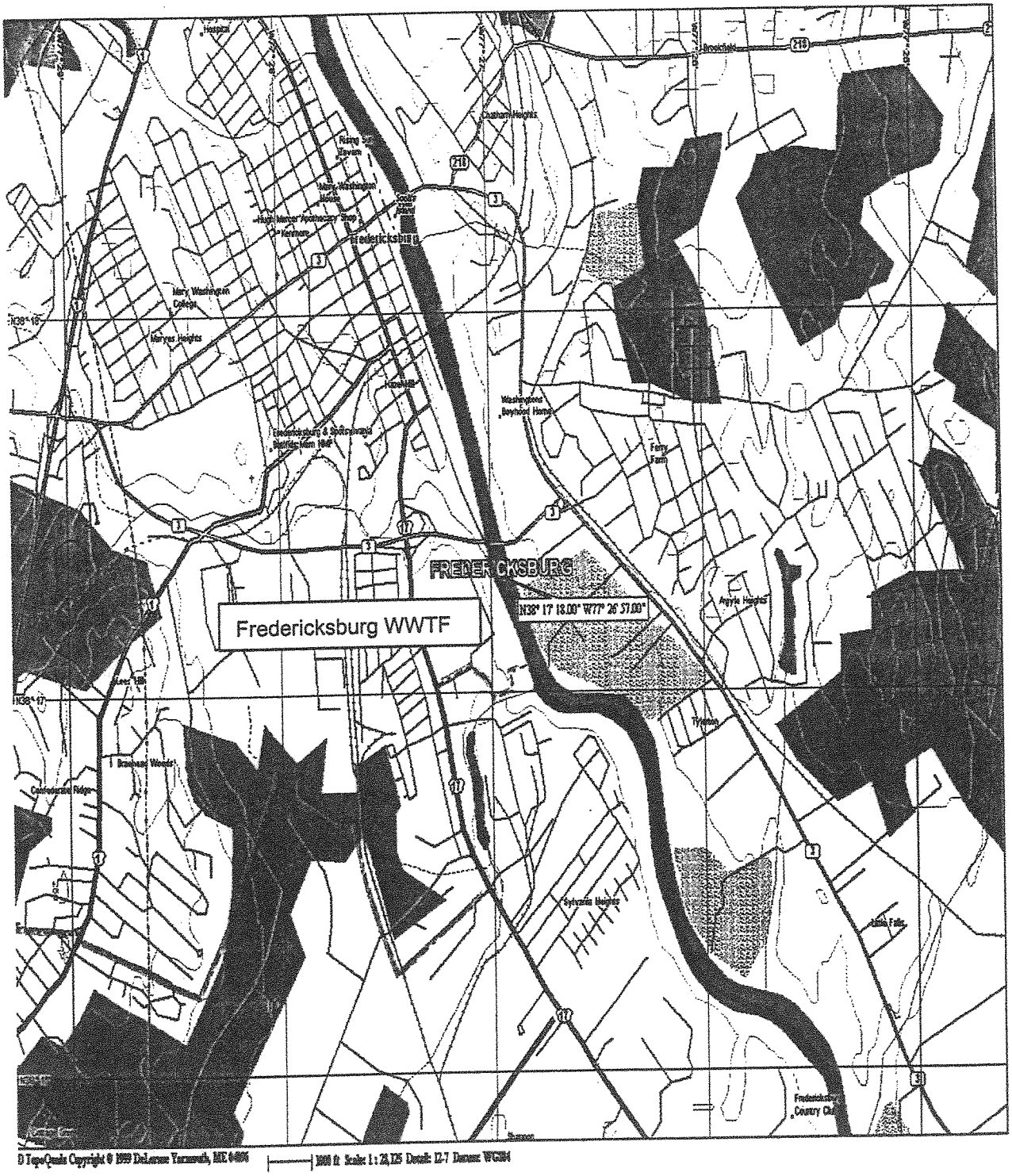


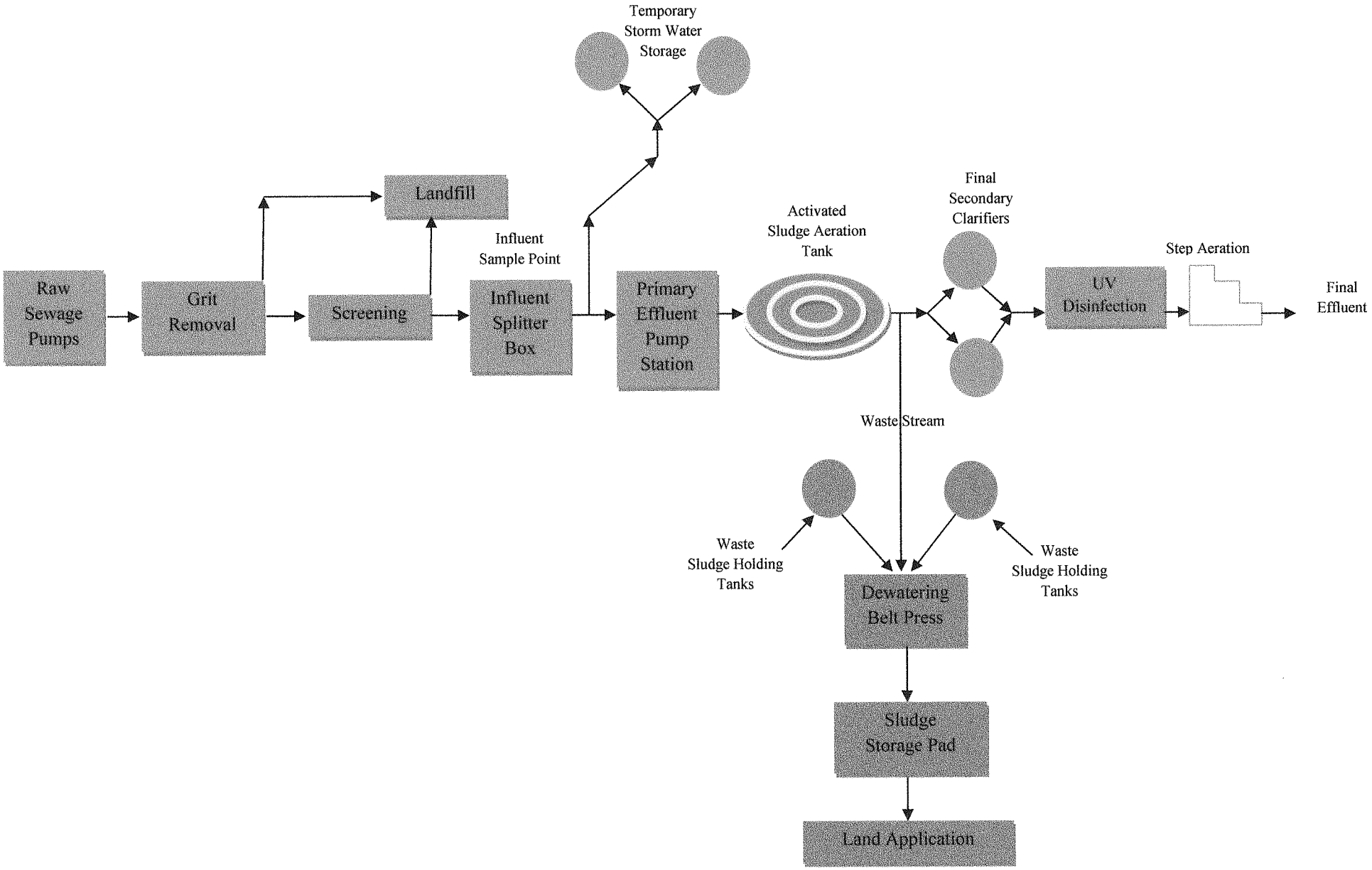
Figure 1
Discharger Locations

Fredericksburg Quadrangle Map with
the location of Fredericksburg WWTF
Outfall 001.

Latitude: 38° 17' 18"
Longitude: 77° 26' 57"



City of Fredericksburg
Wastewater Treatment Plant
Flow Chart



Process Flow Narrative

The raw sewage influent arrives at the plant from the collection system and enters the RAW Pump Station Wet Well. The RAW Pump Station is equipped with four ***Raw Sewage Pumps***; a portion of the raw flows entering the wet well can be diverted to the FMC Plant that is located in Spotsylvania County prior to pretreatment if needed.

Flows from the raw pump station are pumped to the ***Cyclone Grit Removal*** chamber as the first step in the pretreatment process. The influent then travels through a bar screen, for ***Screening*** removal. Bar screens are used to remove large objects such as rags, plastics bottles, rocks, solids, from the waste stream entering the treatment plant. Three bar screens are present, one is manual and the other two are automatic. Only one automatic screen is normally used at a time. The manual bar screen is only used in emergencies or high flow events. The collected grit and screenings are conveyed to a trash receptacle and disposed of at a ***Landfill*** as needed.

Preliminary effluent then flows through an ***Influent Splitter Box*** and flows to the ***Primary Effluent Pump Station***. Four effluent pumps are present at the primary effluent pump station to pump flows to the Oxidation Ditch. Only one or two pumps are needed during normal flow patterns.
The existing primary clarifiers are out of service but can be used to divert flows for ***Temporary Storm Water Storage*** *during excessive high flow periods if needed. After the high flow event is over the primary tanks can be drained back to the raw pump station.*

The primary effluent then enters the ***Activated Sludge Aeration Tank***/Oxidation Ditch which consists of three concentric rings. The outer ring (#1) of the oxidation ditch has two anoxic zones and has four zones where oxygen is added. Oxygen is added at 6 locations in the middle ring (#2) and the inner ring (#3). This facility has the capability to add alum, polymer, and caustic soda to the oxidation ditch. Caustic soda increases the pH and helps maintains alkalinity if needed. Polymer can be added to improve settling in the clarifiers without disturbing the flocculation process. Alum may be used to precipitate phosphorus out of solution.

Continued on next page

Process Flow Narrative (continued)

Effluent leaving the oxidation ditch is routed to two ***Final Secondary Clarifiers*** operating in the parallel mode. Return activated sludge (RAS) is pumped from the clarifiers back to the oxidation ditch. Five RAS pumps are present to meet RAS cycle demand rates.

Effluent from the secondary clarifier's weirs flows to one of the two existing chlorine contact tanks which are used for polishing tanks only. The chlorine disinfection and dechlorination process have been removed and an ***Ultraviolet Disinfection System*** has been installed to meet all disinfection requirements. The use of the two chlorine contact tanks is alternated; one is used while the other is cleaned. Final effluent sampling is conducted after leaving the ultraviolet disinfection channels and before the ***Step Aeration*** process – The final treatment process. The latitude and longitude at this point is 38° 17' 17.7" and 77° 27' 2.2", respectively. Effluent flow is measured by an ultrasonic level sensor located at the plant effluent weir located between the effluent well and the cascade aerator.

Waste Stream; Waste activated sludge from the secondary clarifiers is pumped to one of the two ***Was Sludge Holding Tanks*** or directly to the ***Dewatering Belt Press***. Two sludge presses are available for dewatering the WAS sludge. After the sludge is dewatered it is stabilized with lime to meet class "B" requirements. The liquid waste or centrate from the dewatering process is recycled back to the primary effluent pumping station. Stabilized dewatered sludge is stored on a covered ***Sludge Storage Pad*** and later conveyed by trucks to ***Land Application*** sites. All decanted waste from this holding pad enters a drain and is drained back to the head works of the plant.

VPDES Permit Application Addendum

1. **Entity to whom the permit is to be issued:** CITY OF FREDERICKSBURG
   Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** (Y) N

3. **Provide the tax map parcel number for the land where the discharge is located.** 57-A1000

4. **For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities?** None

5. **What is the design average effluent flow of this facility?** 4.5 MGD
   For industrial facilities, provide the max. 30-day average production level, include units:

   In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y / (N)
   If "Yes", please identify the other flow tiers (in MGD) or production levels: _____
   Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. **Nature of operations generating wastewater:**
   _____

   100 % of flow from domestic connections/sources
   Number of private residences to be served by the treatment works:

   ____% of flow from non-domestic connections/sources

7. **Mode of discharge**: ✓ Continuous ____ Intermittent ____ Seasonal
   Describe frequency and duration of intermittent or seasonal discharges:
   _____

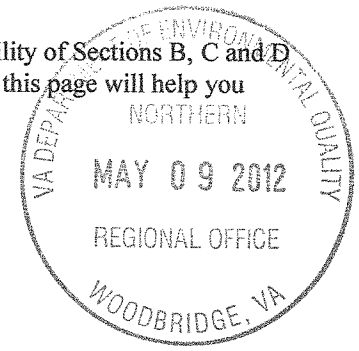
8. **Identify the characteristics of the receiving stream at the point just above the facility's discharge point:**
   ✓ Permanent stream, never dry
   __ Intermittent stream, usually flowing, sometimes dry
   __ Ephemeral stream, wet-weather flow, often dry
   __ Effluent-dependent stream, usually or always dry without effluent flow
   __ Lake or pond at or below the discharge point
   __ Other: _____

9. **Approval Date(s):**
   O & M Manual 3/16/12 **Sludge/Solids Management Plan** 7/25/08

   Have there been any changes in your operations or procedures since the above approval dates? Y / N

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION



This application is divided into four sections. Section A pertains to all applicants. The applicability of Sections B, C and D depends on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Does this facility generate sewage sludge? ___*_ Yes _____ No

   Does this facility derive a material from sewage sludge? __*__ Yes _____ No

   If you answered "Yes" to either, complete Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge).

3. Does this facility apply sewage sludge to the land? ___*_ Yes _____ No

   Is sewage sludge from this facility applied to the land? __*__ Yes _____ No

   If you answer "No" to all above, skip Section C.

   If you answered "Yes" to either, answer the following three questions:

   a. Does the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions? _____ Yes ___*_ No

   b. Is sewage sludge from this facility placed in a bag or other container for sale or give-away for application to the land? _____ Yes ___*_ No

   c. Is sewage sludge from this facility sent to another facility for treatment or blending? _____ Yes ___*_ No

   If you answered "No" to all three, complete Section C (Land Application of Bulk Sewage Sludge).

   If you answered "Yes" to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? _____ Yes __*__ No

   If "Yes", complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. **Facility Information.**
   a. Facility name: __Fredericksburg WWTF_____
   b. Contact person: __Alan Caldwell_____
      Title: __Supertintendent_____
      Phone: (___540_) ____372-1077_____
   c. Mailing address:
      Street or P.O. Box: __P.O. Box 7447_____
      City or Town: Fredericksburg_____ State: _____Va.__ Zip: __22404_____
   d. Facility location:
      Street or Route #: __Route 700 Beulah Salisbury Road_____
      County: N/A_____
      City or Town: ___Fredericksburg_____ State: ____Va.___ Zip: _____22401_
   e. Is this facility a Class I sludge management facility? ___*_ Yes _____ No
   f. Facility design flow rate: _____4.5_____ mgd
   g. Total population served: _____24,286_____
   h. Indicate the type of facility:
      ___*_ Publicly owned treatment works (POTW)
      _____ Privately owned treatment works
      _____ Federally owned treatment works
      _____ Blending or treatment operation
      _____ Surface disposal site
      _____ Other (describe): _____

2. **Applicant Information.** If the applicant is different from the above, provide the following:
   a. Applicant name: ____City of Fredericksburg Public Works/Doug Fawcett_____
   b. Mailing address:
      Street or P.O. Box: _____P.O. Box 7447_____
      City or Town: _Fredericksburg_____ State: ____Va.___ Zip: ___22404_____
   c. Contact person: _Doug Fawcett_____
      Title: _Director of Public Works_____
      Phone: (540____) _372-1023_____
   d. Is the applicant the owner or operator (or both) of this facility?
      ___*_ owner _____ operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant?
      _____ Facility __*__ applicant

3. **Permit Information.**
   a. Facility's VPDES permit number (if applicable): _VA00025127_____
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
      Permit Number: Type of Permit:
      ___All Synagro permits on file with DEQ/VDH are permitted to receive material from the Fredericksburg WWTP_
      _____

4. **Indian Country.** Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? _____ Yes __*__ No If "Yes", describe:

_____

5. **Topographic Map.** Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility:
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed. – All Maps and locations are on file and reported to DEQ central office by the 15th of the month following application.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries. – All Buffered features are on file with permitted sites at each of the regional offices of DEQ

6. **Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

7. **Contractor Information.** Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? __*__ Yes _____ No

   If "Yes", provide the following for each contractor (attach additional pages if necessary).

   Name: _____Synagro Technologies, Inc._____

   Mailing address:

   Street or P.O. Box: __7014 East Baltimore Street_____

   City or Town: __Baltimore _____ State: _Md._____ Zip: _21224_____

   Phone: (__410__) __284-4120_____

   Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

   _____

   If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s). – Yes, land application and storage if deemed necessary.

8. **Pollutant Concentrations.** Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	See Attachment			
Cadmium				
Chromium				
Copper				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Zinc				

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	4.0	7/22/2011	SW-6010C	1.0
Cadmium	<1.0	7/22/2011	SW-6010C	1.0
Chromium	32	7/22/2011	SW-6010C	5
Copper	133	7/22/2011	SW-6010C	1
Lead	14	7/22/2011	SW-6010C	5
Mercury	0.4	7/22/2011	SW-6010C	0.4
Molybdenum	<5	7/22/2011	SW-6010C	5
Nickel	12	7/22/2011	SW-6010C	5
Selenium	1.0	7/22/2011	SW-6010C	1.0
Zinc	221	7/22/2011	SW-6010C	1

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	6.0	7/2/2010	SW-6010B	1.0
Cadmium	<1.0	7/2/2010	SW-6010B	1.0
Chromium	44	7/2/2010	SW-6010B	5
Copper	125	7/2/2010	SW-6010B	1
Lead	11	7/2/2010	SW-6010B	5
Mercury	<0.4	7/2/2010	SW-7471A	0.4
Molybdenum	<5	7/2/2010	SW-6010B	5
Nickel	13	7/2/2010	SW-6010B	5
Selenium	3.0	7/2/2010	SW-6010B	1.0
Zinc	292	7/2/2010	SW-6010B	1

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	5.6	7/22/2009	SW-846-3051	1.0
Cadmium	*BDL	7/22/2009	SW-6010C	1
Chromium	45	7/22/2009	SW-6010C	5
Copper	161	7/22/2009	SW-6010C	1
Lead	13	7/22/2009	SW-6010C	5
Mercury	0.4	7/22/2009	SW-846-7471A	0.4
Molybdenum	*BDL	7/22/2009	SW-B46-7471A	5
Nickel	13	7/22/2009	SW-B46-3051/6010C	5
Selenium	5.4	7/22/2009	SW-B46-3051/6010C	1.0
Zinc	254	7/22/2009	SW-B46-3051/6010C	1

9. **Certification.** Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

___*__ Section A (General Information)

___*__ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

__*___ Section C (Land Application of Bulk Sewage Sludge)

_____ Section D (Surface Disposal)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and official title __Doug Fawcett (Director of Public Works) _____

Signature Doug Fawcett Date Signed 5/8/2012

Telephone number (__540_____) __372-1023_____

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. **Amount Generated On Site.**
   Total dry metric tons per 365-day period generated at your facility: __877.57____ dry metric tons

2. **Amount Received from Off Site.** If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.
   a. Facility name: _____
   b. Contact Person: _____
      Title: _____
      Phone: (_____) _____
   c. Mailing address:
      Street or P.O. Box: _____
      City or Town: _____ State: _____ Zip: _____
   d. Facility location: _____
      (not P.O. Box) _____
   e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

      _____

      _____

3. **Treatment Provided at Your Facility.**
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      _____ Class A ___*_ Class B _____ Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: _Lime stabilization _____

      _____

   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      _____ Option 1 (Minimum 38 percent reduction in volatile solids)
      _____ Option 2 (Anaerobic process, with bench-scale demonstration)
      _____ Option 3 (Aerobic process, with bench-scale demonstration)
      _____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      _____ Option 5 (Aerobic processes plus raised temperature)
      ___*__ Option 6 (Raise pH to 12 and retain at 11.5)
      _____ Option 7 (75 percent solids with no unstabilized solids)
      _____ Option 8 (90 percent solids with unstabilized solids)
      _____ None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: __lime stabilization_____

      _____

   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: _____

      _____

4. **Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).**

   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)

   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:

   _____ dry metric tons

   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?

   _____ Yes _____ No

5. **Sale or Give-Away in a Bag or Other Container for Application to the Land.**

   (Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

   a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ dry metric tons

   b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. **Shipment Off Site for Treatment or Blending.**

   (Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

   a. Receiving facility name: _____

   b. Facility contact: _____

   Title: _____

   Phone: (_____) _____

   c. Mailing address:

   Street or P.O. Box: _____

   City or Town: _____ State: _____ Zip: _____

   d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:

   _____ dry metric tons

   e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:	Type of Permit:
_____	_____
_____	_____

   f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?

   _____ Yes _____ No

   Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

   _____ Class A _____ Class B _____ Neither or unknown

   Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: _____

   _____

   _____

   g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? _____ Yes _____ No

   Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

   _____ Option 1 (Minimum 38 percent reduction in volatile solids)

   _____ Option 2 (Anaerobic process, with bench-scale demonstration)

_____ Option 3 (Aerobic process, with bench-scale demonstration)

_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

_____ Option 5 (Aerobic processes plus raised temperature)

_____ Option 6 (Raise pH to 12 and retain at 11.5)

_____ Option 7 (75 percent solids with no unstabilized solids)

_____ Option 8 (90 percent solids with unstabilized solids)

_____ None unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: _____

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
_____ Yes _____ No

If "Yes", describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered "Yes" to f, g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? _____ Yes _____ No

If "Yes", provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? _____ Yes _____ No. If "No", provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.

Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. _____

7. **Land Application of Bulk Sewage Sludge.**

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6. Complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:

_____877.57 dry metric tons

b. Do you identify all land application sites in Section C of this application? _____ Yes _____ No

If "No", submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? _____ Yes _____ No

If "Yes", describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal.

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
_____ Yes _____ No

If "No", answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number: _____

d. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Site Owner _____ Site operator

e. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	_____
_____	_____

9. Incineration.

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
_____ Yes _____ No

If "No", answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: _____

d. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Incinerator Owner _____ Incinerator Operator

e. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing

of sewage sludge at this incinerator:

Permit Number: Type of Permit:

_____ _____

_____ _____

10. Disposal in a Municipal Solid Waste Landfill.

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: _____

b. Contact person: _____

Title: _____

Phone: (_____) _____

Contact is: _____ Landfill Owner _____ Landfill Operator

c. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

d. Landfill location.

Street or Route #: _____

County: _____

City or Town: _____ State: _____ Zip: _____

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:

_____ dry metric tons

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number: Type of Permit:

_____ _____

_____ _____

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
_____ Yes _____ No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? _____ Yes _____ No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? _____ Yes _____ No

Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. _____

_____

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:

- ***The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or***
- ***The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or***
- ***You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).***

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site.

a. Site name or number: ___All Synagro permits on file with DEQ/VDH are permitted to receive material from the Fredericksburg WWTP_

b. Site location (Complete i and ii)

i. Street or Route#: _____

County: _____

City or Town: _____ State: _____ Zip: _____

ii. Latitude: _____ Longitude: _____

Method of latitude/longitude determination

_____ USGS map _____ Filed survey _____ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.

a. Are you the owner of this land application site? _____ Yes ___*__ No

b. If "No", provide the following information about the owner:

Name: _____

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

Phone: (_____) _____

3. Applier Information:

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? _____ Yes ___*__ No

b. If "No", provide the following information for the person who applies the sewage sludge:

Name:SynagroTechnologies_____

Street or P.O. Box: _____7014 East Baltimore

_____

City oTown:_____Baltimore_____State:_____Md_____Zip:_21224_____

Phone: (__410_____) __284-4120_____

c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number: Type of Permit:

_____ __All Synagro permits on file with DEQ/VDH are permitted to receive material from the Fredericksburg WWTP_____

_____ _____

4. Site Type. Identify the type of land application site from among the following:

__*___ Agricultural land _____ Reclamation site _____ Forest

_____ Public contact site _____ Other (describe _____

5. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
_____ Yes __*___ No If "Yes", answer a and b.

a. Indicate which vector attraction reduction option is met:

_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

_____

_____

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? _____ Yes _____ No

If "No", sewage sludge subject to the CPLRs may not be applied to this site.

If "Yes", provide the following information:

Permitting authority: _____

Contact person: _____

Phone: (_____) _____

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? _____ Yes _____ No If "No", skip the rest of Question 6. If "Yes", answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name: _____

Facility contact: _____

Title: _____

Phone: (_____) _____

Mailing address.

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	_____
Cadmium	_____	_____
Copper	_____	_____
Lead	_____	_____
Mercury	_____	_____
Nickel	_____	_____
Selenium	_____	_____
Zinc	_____	_____

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage

sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. **Sludge Characterization.** Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)	_____
pH (S. U.)	_____
Percent Solids (%)	_____
Ammonium Nitrogen (mg/kg)	_____
Nitrate Nitrogen (mg/kg)	_____
Total Kjeldahl Nitrogen (mg/kg)	_____
Total Phosphorus (mg/kg)	_____
Total Potassium (mg/kg)	_____
Alkalinity as $CaCO_3$* (mg/kg)	_____

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

8. **Storage Requirements.**

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.

1) Water wells, abandoned or operating
2) Surface waters
3) Springs
4) Public water supply(s)
5) Sinkholes
6) Underground and/or surface mines
7) Mine pool (or other) surface water discharge points
8) Mining spoil piles and mine dumps
9) Quarry(s)
10) Sand and gravel pits
11) Gas and oil wells
12) Diversion ditch(s)
13) Agricultural drainage ditch(s)
14) Occupied dwellings, including industrial and commercial establishments
15) Landfills or dumps
16) Other unlined impoundments
17) Septic tanks and drainfields
18) Injection wells
19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:

1) Maximum and minimum percent slopes
2) Depressions on the site that may collect water
3) Drainageways that may attribute to rainfall run-on to or runoff from this site
4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. **Land Area Requirements.** Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings

(CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

10. **Landowner Agreement Forms.** Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

11. **Ground Water Monitoring.**

Are any ground water monitoring data available for this land application site? _____ Yes _____ No

If "Yes", submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. **Land Application Site Information.**

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U.S. Fish and Wildlife Service
Virginia Field Office
P.O. Box 480
White Marsh, VA 23183
TEL: (804) 693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)

Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%) _____

Soil pH (std. units) _____

Cation Exchange Capacity (meq/100g) _____

Total Nitrogen (ppm) _____

Organic Nitrogen (ppm) _____

Ammonia Nitrogen (ppm) _____

Nitrate Nitrogen (ppm) _____

Available Phosphorus (ppm) _____

Exchangeable Potassium (mg/100g) _____

Exchangeable Sodium (mg/100g) _____

Exchangeable Calcium (mg/100g) _____

Exchangeable Magnesium (mg/100g) _____

Arsenic (ppm) _____

Cadmium (ppm) _____

Copper (ppm) _____

Lead (ppm) _____

Mercury (ppm) _____

Molybdenum (ppm) _____

Nickel (ppm) _____

Selenium (ppm) _____

Zinc (ppm) _____

Manganese (ppm) _____

Particle Size Analysis or USDA Textural Estimate (%) _____

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

SEWAGE SLUDGE APPLICATION AGREEMENT

This sewage sludge application agreement is made on this date _____ between _____, referred to here as "landowner", and _____, referred to here as the "Permittee".

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as _____ ("landowner's land"). Permittee agrees to apply and landowner agrees to comply with certain permit requirements following application of sewage sludge on landowner's land in amounts and in a manner authorized by VPDES permit number _____ which is held by the Permittee.

Landowner acknowledges that the appropriate application of sewage sludge will be beneficial in providing fertilizer and soil conditioning to the property. Moreover, landowner acknowledges having been expressly advised that, in order to protect public health, the following site restrictions must be adhered to when sewage sludge receives Class B treatment for pathogen reduction:

1. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;
2. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;
3. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;
4. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;
5. Animals shall not be grazed on the land for 30 days after application of sewage sludge;
6. Turf grown on land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board;
7. Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;
8. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.
9. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for three years following the application of sewage sludge borne cadmium equal to or exceeding 0.5 kilograms/hectare (0.45 pounds/acre).

Permittee agrees to notify landowner or landowner's designee of the proposed schedule for sewage sludge application and specifically prior to any particular application to landowner's land. This agreement may be terminated by either party upon written notice to the address specified below.

Landowner:	Permittee:
_____	_____
Signature	Signature
_____	_____
Mailing Address	Mailing Address

SECTION D. SURFACE DISPOSAL

Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units.

a. Unit name or number: _____

b. Unit location

i. Street or Route#: _____

County: _____

City or Town: _____ State: _____ Zip: _____

ii. Latitude: _____ Longitude: _____

Method of latitude/longitude determination

_____ USGS map _____ Filed survey _____ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period:

_____ dry metric tons.

e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit:

_____ dry metric tons.

f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7} cm/sec?

_____ Yes _____ No If "Yes", describe the liner or attach a description.

_____

_____

g. Does the active sewage sludge unit have a leachate collection system? _____ Yes _____ No

If "Yes", describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:

_____

_____

_____

h. If you answered "No" to either f or g, answer the following:
Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? _____ Yes _____ No If "Yes", provide the actual distance in meters: _____

i. Remaining capacity of active sewage sludge unit, in dry metric tons: _____ dry metric tons

Anticipated closure date for active sewage sludge unit, if known: _____ (MM/DD/YYYY)

Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.

Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? _____ Yes _____ No

If "Yes", provide the following information for each such facility, attach additional sheets as necessary.

a. Facility name: _____

b. Facility contact: _____

Title: _____

Phone: (_____) _____

c. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:

Permit Number: Type of Permit:

_____ _____

_____ _____

e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
_____ Class A _____ Class B _____ Neither or unknown

f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge: _____

_____

_____

g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?

_____ Option 1 (Minimum 38 percent reduction in volatile solids)

_____ Option 2 (Anaerobic process, with bench-scale demonstration)

_____ Option 3 (Aerobic process, with bench-scale demonstration)

_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)

_____ Option 5 (Aerobic processes plus raised temperature)

_____ Option 6 (Raise pH to 12 and retain at 11.5)

_____ Option 7 (75 percent solids with no unstabilized solids)

_____ Option 8 (90 percent solids with unstabilized solids)

_____ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge: _____

_____

_____

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above: _____

_____

_____

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?

_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

_____ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge: _____

_____

_____

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? _____ Yes _____ No

If "Yes", provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these

data.

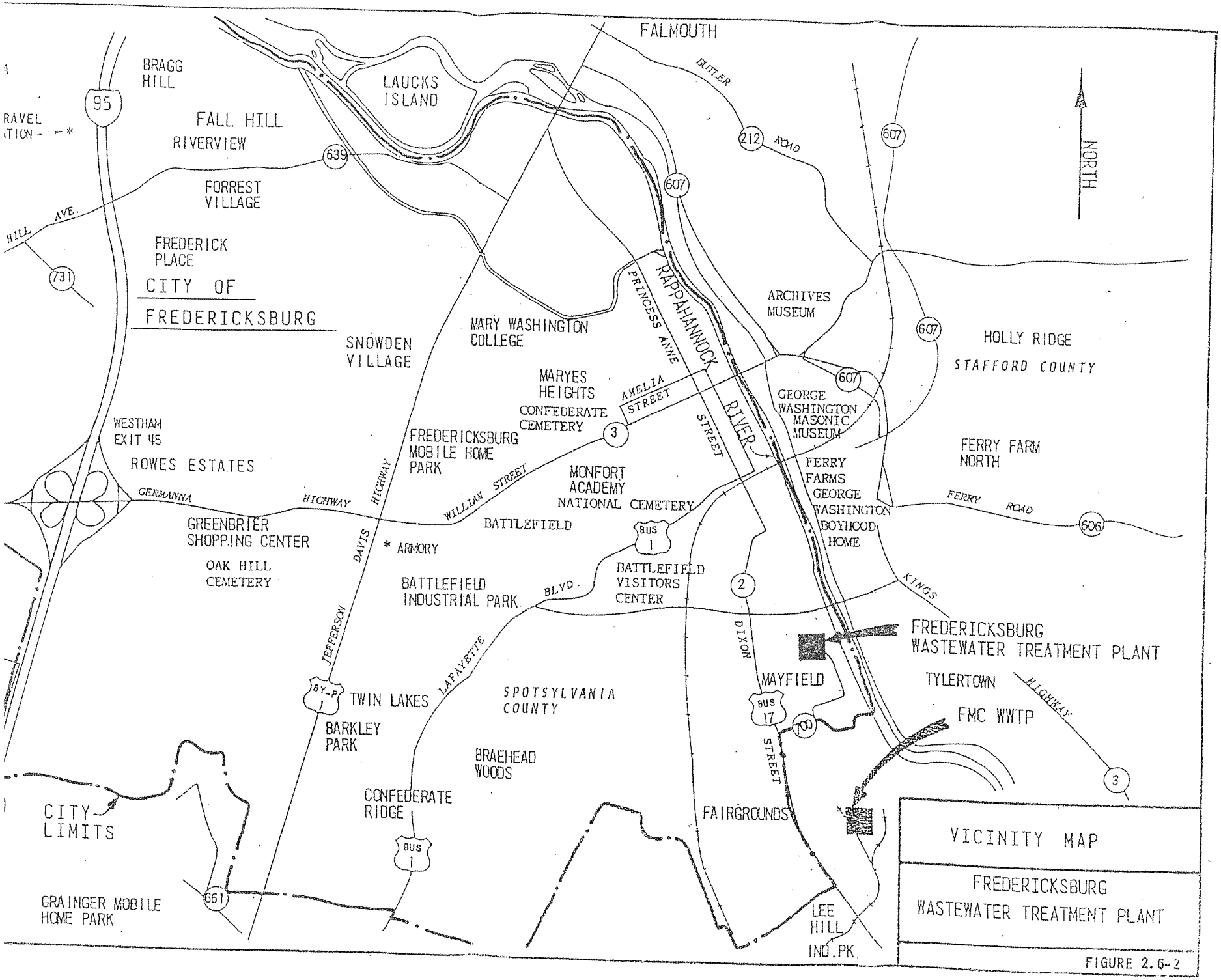
b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
_____ Yes _____ No If "Yes", submit a copy of the ground water monitoring program with this application.

c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? _____ Yes _____ No

If "Yes", submit a copy of the certification with this application.

5. **Site-Specific Limits.**

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
_____ Yes _____ No If "Yes", submit information to support the request for site-specific pollutant limits with this application.



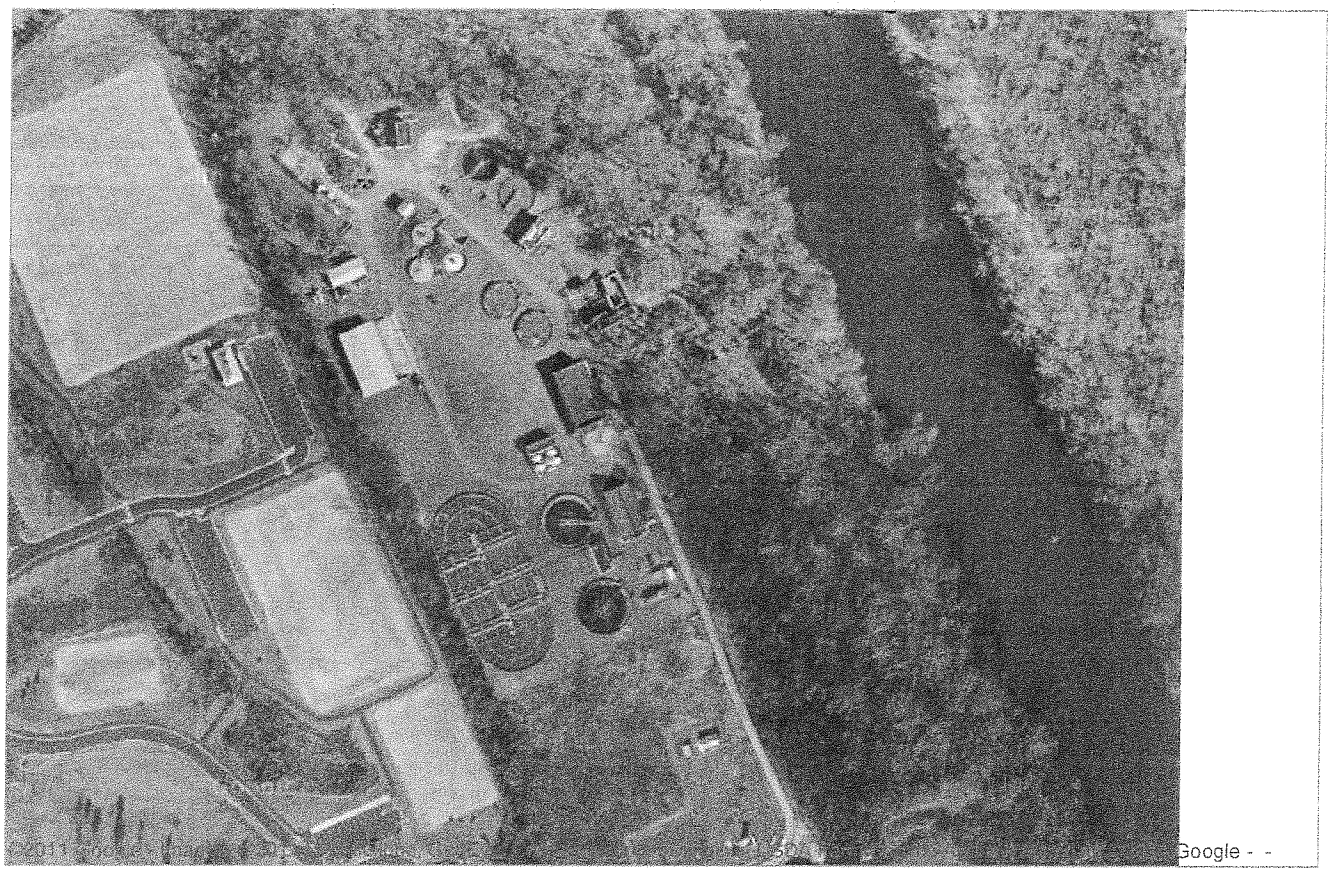
VICINITY MAP

FREDERICKSBURG WASTEWATER TREATMENT PLANT

FIGURE 2.6-2

Google maps

To see all the details that are visible on the screen, use the "Print" link next to the map.



Google maps

To see all the details that are visible on the screen, use the "Print" link next to the map.

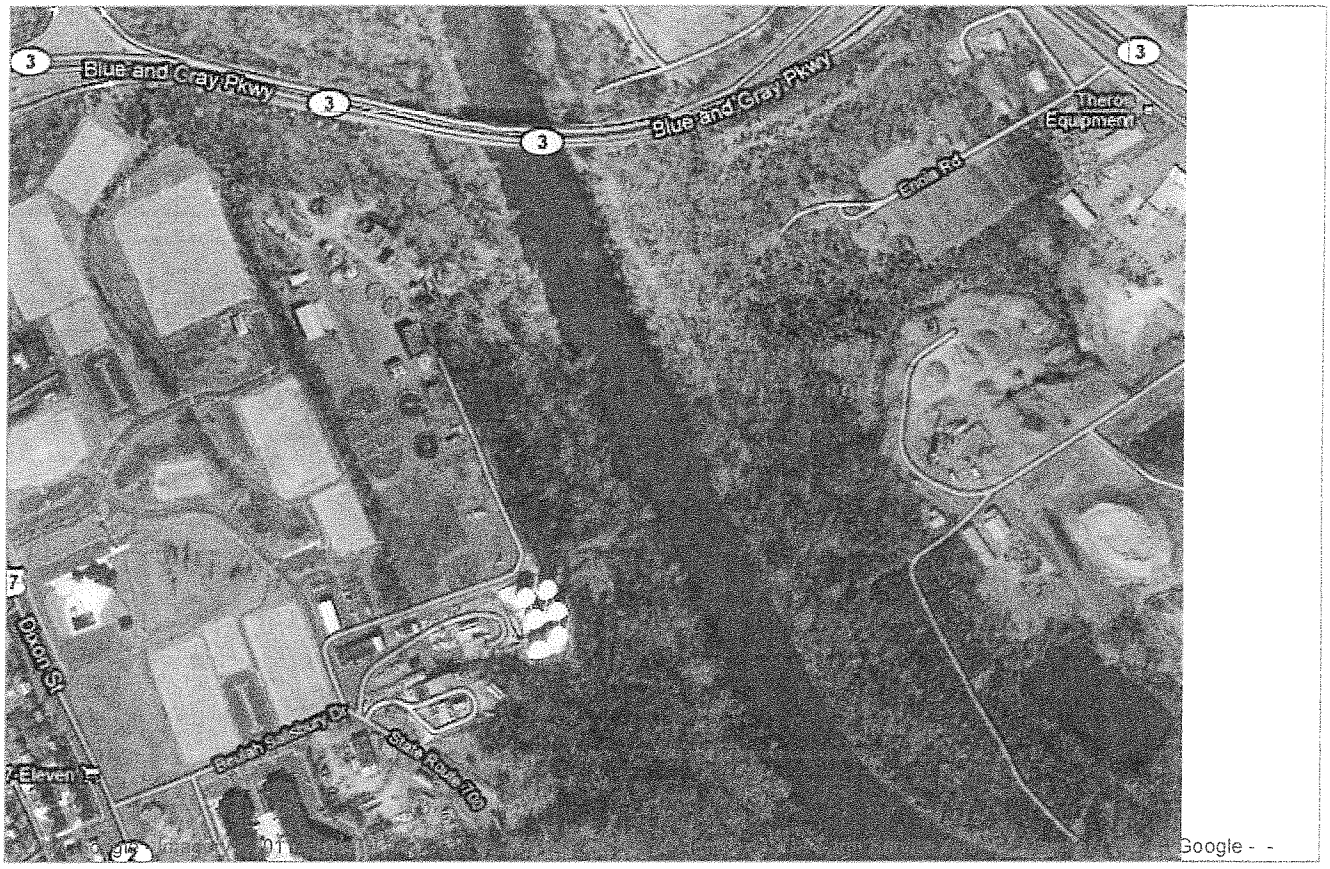


Figure 2-1 Fredericksburg WWTP Interceptor Sewer Systems

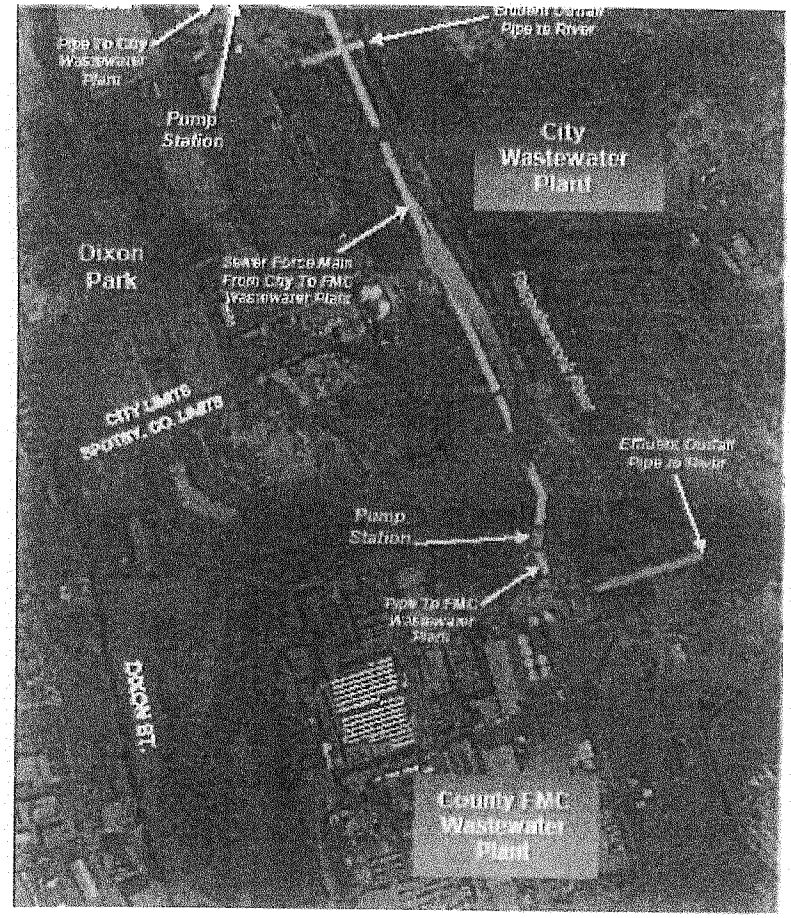


Figure 2-2 Overview of the Fredericksburg WWTP and the Spotsylvania County FMC WWTP

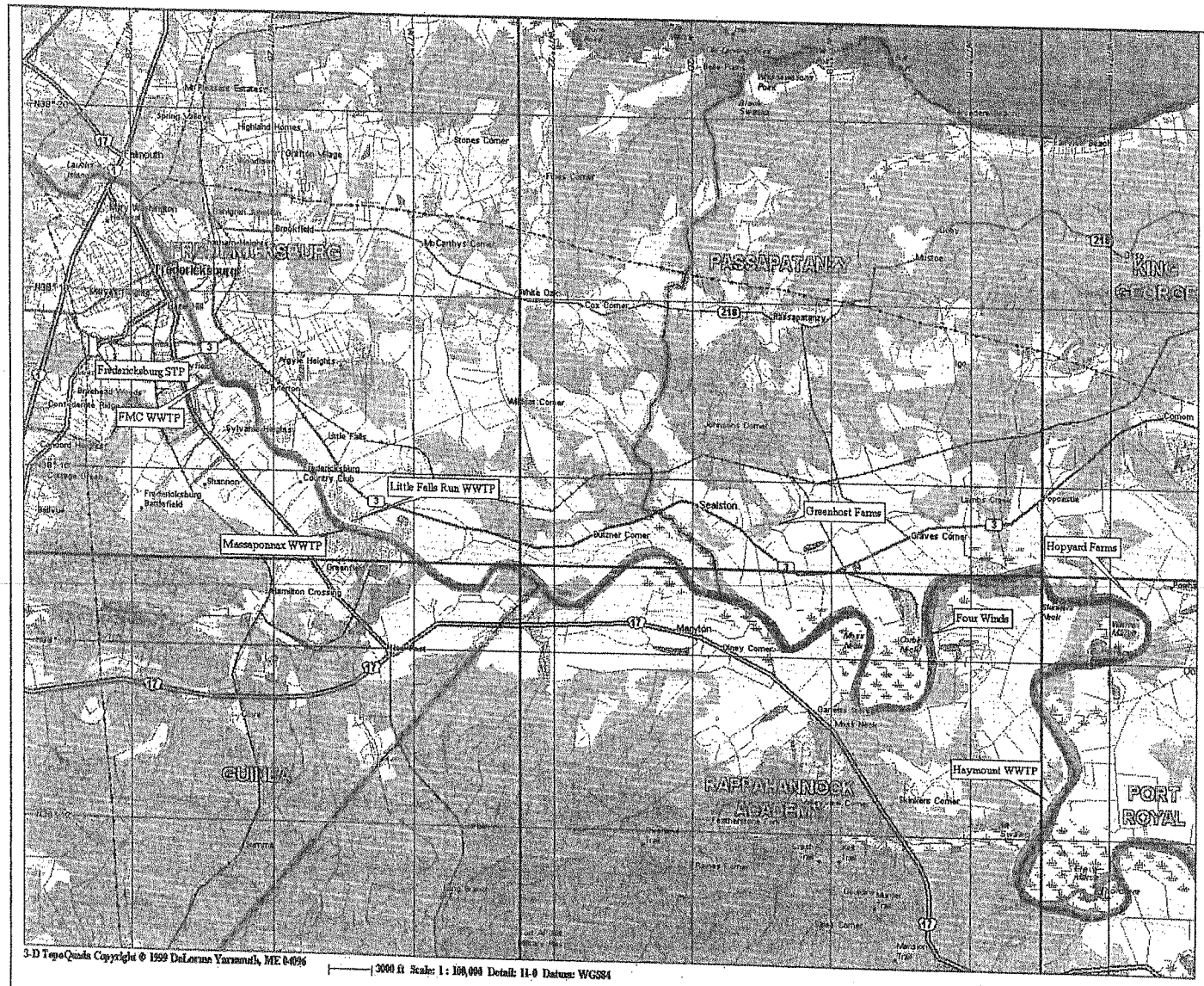
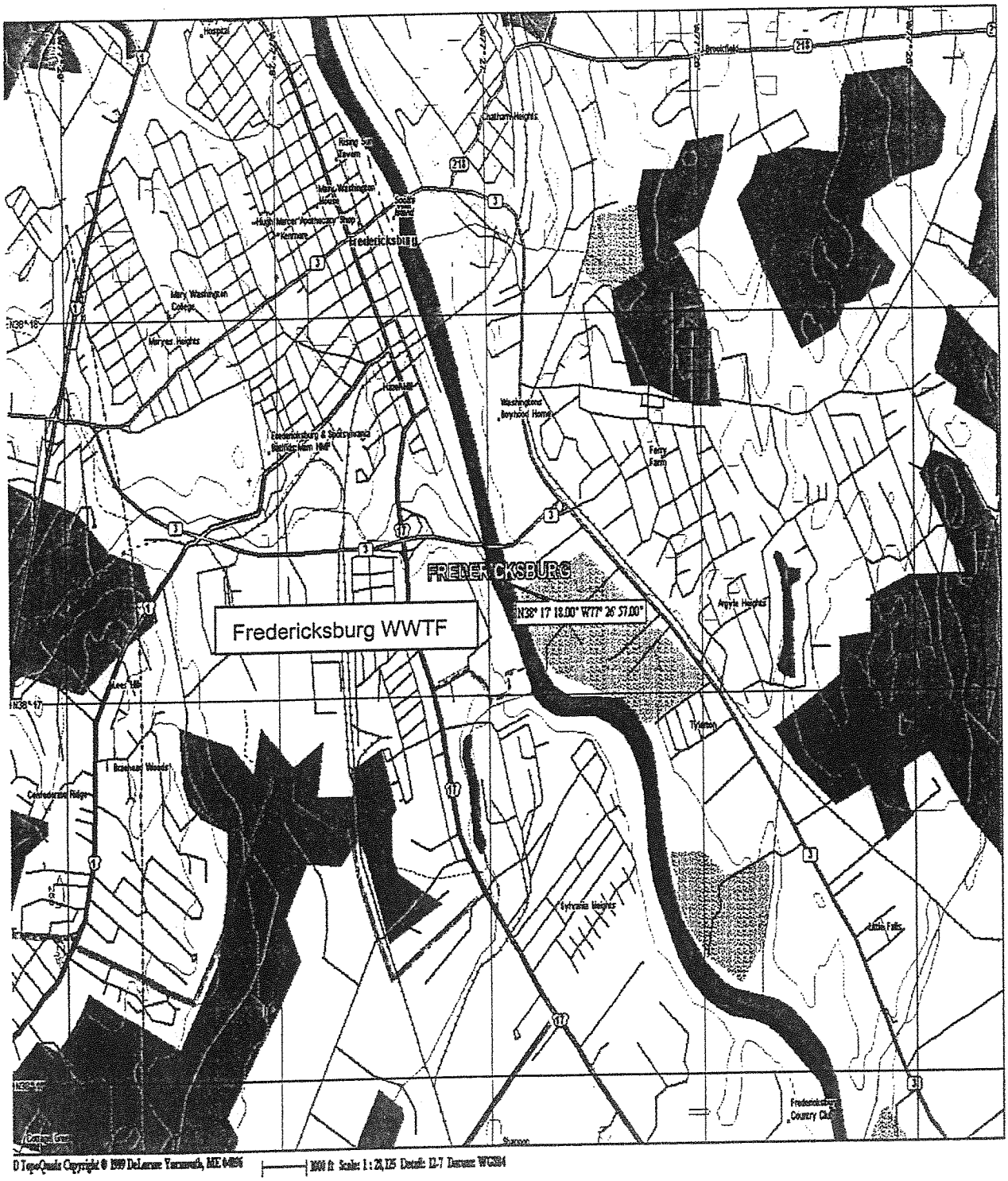


Figure 1
Discharger Locations

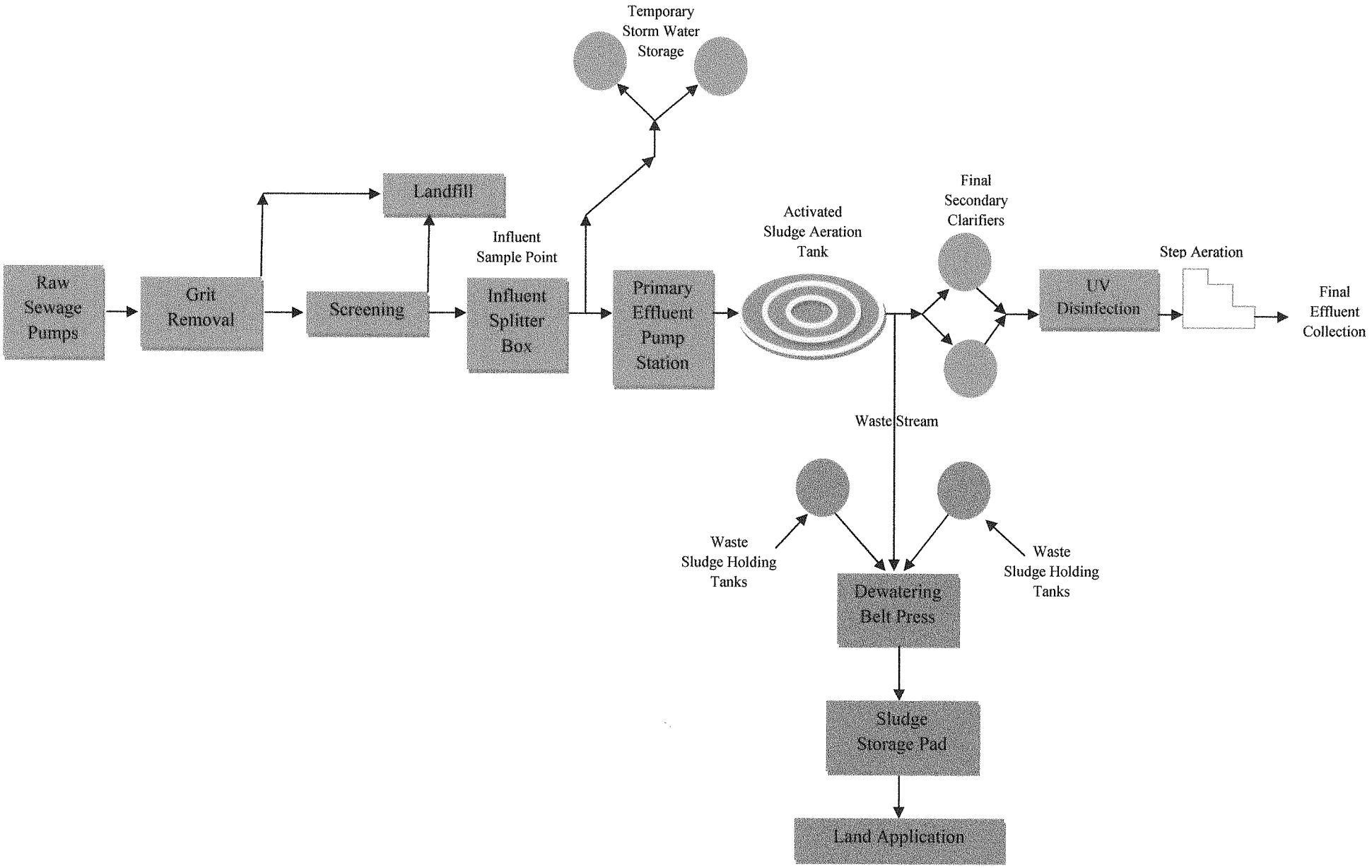
Fredericksburg Quadrangle Map with the location of Fredericksburg WWTF Outfall 001.

Latitude: 38° 17' 18"
Longitude: 77° 26' 57"



2000 ft Scale 1: 24,125 Detail: D-7 Datum: WGS84

City of Fredericksburg
Wastewater Treatment Plant
Flow Chart



Process Flow Narrative

The raw sewage influent arrives at the plant from the collection system and enters the RAW Pump Station Wet Well. The RAW Pump Station is equipped with four ***Raw Sewage Pumps***; a portion of the raw flows entering the wet well can be diverted to the FMC Plant that is located in Spotsylvania County prior to pretreatment if needed.

Flows from the raw pump station are pumped to the ***Cyclone Grit Removal*** chamber as the first step in the pretreatment process. The influent then travels through a bar screen, for ***Screening*** removal. Bar screens are used to remove large objects such as rags, plastics bottles, rocks, solids, from the waste stream entering the treatment plant. Three bar screens are present, one is manual and the other two are automatic. Only one automatic screen is normally used at a time. The manual bar screen is only used in emergencies or high flow events. The collected grit and screenings are conveyed to a trash receptacle and disposed of at a ***Landfill*** as needed.

Preliminary effluent then flows through an ***Influent Splitter Box*** and flows to the ***Primary Effluent Pump Station***. Four effluent pumps are present at the primary effluent pump station to pump flows to the Oxidation Ditch. Only one or two pumps are needed during normal flow patterns.
The existing primary clarifiers are out of service but can be used to divert flows for ***Temporary Storm Water Storage*** *during excessive high flow periods if needed. After the high flow event is over the primary tanks can be drained back to the raw pump station.*

The primary effluent then enters the ***Activated Sludge Aeration Tank***/Oxidation Ditch which consists of three concentric rings. The outer ring (#1) of the oxidation ditch has two anoxic zones and has four zones where oxygen is added. Oxygen is added at 6 locations in the middle ring (#2) and the inner ring (#3). This facility has the capability to add alum, polymer, and caustic soda to the oxidation ditch. Caustic soda increases the pH and helps maintains alkalinity if needed. Polymer can be added to improve settling in the clarifiers without disturbing the flocculation process. Alum may be used to precipitate phosphorus out of solution.

Continued on next page

Process Flow Narrative (continued)

Effluent leaving the oxidation ditch is routed to two ***Final Secondary Clarifiers*** operating in the parallel mode. Return activated sludge (RAS) is pumped from the clarifiers back to the oxidation ditch. Five RAS pumps are present to meet RAS cycle demand rates.

Effluent from the secondary clarifier's weirs flows to one of the two existing chlorine contact tanks which are used for polishing tanks only. The chlorine disinfection and dechlorination process have been removed and an ***Ultraviolet Disinfection System*** has been installed to meet all disinfection requirements. The use of the two chlorine contact tanks is alternated; one is used while the other is cleaned. Final effluent sampling is conducted after leaving the ultraviolet disinfection channels and before the ***Step Aeration*** process – The final treatment process. The latitude and longitude at this point is 38° 17' 17.7" and 77° 27' 2.2", respectively. Effluent flow is measured by an ultrasonic level sensor located at the plant effluent weir located between the effluent well and the cascade aerator.

Waste Stream; Waste activated sludge from the secondary clarifiers is pumped to one of the two ***Was Sludge Holding Tanks*** or directly to the ***Dewatering Belt Press***. Two sludge presses are available for dewatering the WAS sludge. After the sludge is dewatered it is stabilized with lime to meet class "B" requirements. The liquid waste or centrate from the dewatering process is recycled back to the primary effluent pumping station. Stabilized dewatered sludge is stored on a covered ***Sludge Storage Pad*** and later conveyed by trucks to ***Land Application*** sites. All decanted waste from this holding pad enters a drain and is drained back to the head works of the plant.

Robert A. Caldwell
Wastewater Superintendent

City of Fredericksburg

P.O. Box 7447
Fredericksburg, VA 22404-7447
Telephone: 540 372-1077
Fax: 540 372-1089

Date: May 7, 2012

TO: Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Attention: Anna T. Westernik,

Subject: Lab reports Supplement Information to the 2008 Pretreatment Annual Report

Anna,
Please find enclosed the data of the three sampling events you requested.

Robert "Alan" Caldwell
City of Fredericksburg
Superintendent – WWTF
(540) 372-1077

UNIVERSAL LABORATORIES

REPORT OF ANALYSIS

Order ID: 1108414

(REPORT DATE)
15-Nov-11

TO: City of Fredericksburg
1000 Tyler St. PO Box 7447

Fredericksburg Va 22404

ATTN: Kimberly Klock

FaxNumber: (540) 372-1089
E-MAIL

This report contains the analytical results for Project Id Permit Application designated as UL Order Id **1108414** and received on *Thursday, November 03, 2011* The results contained in this report relate only to the samples identified on this order. The analytical results meet all requirements of NELAC unless specifically stated. This report shall not be reproduced except in full.

The data in this report has been reviewed and validated by:

Carol Kleemeier — Signature
Carol Kleemeier — Name
Pres/Technical Director — Title

ANALYTICAL DATA REPORT

UL ORDER ID **1108414**

UL Sample Number 1108414-002
Grab Date/Time: N/A N/A
Composite Start: 11/2/11 01:00
Composite Stop: 11/2/11 24:00
Collected By: CLIENT

Sample Site: OF-001 Grab (RGWI)
Client Sample ID: OF-001 Grab (RGWI)
Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
EPA 1664						
OIL and Grease (HEM)	<5	mg/L	5	11/10/2011 10:43:00	AB	
EPA 335.4						
Cyanide (Total)	<0.005	mg/L	0.005	11/10/2011 16:33:00	LS	
EPA 420.2						
Phenolics (Total)	<0.1	mg/L	0.1	11/7/2011 14:46:00	AB	*Run by SM 510 A/C*
EPA 624						
1,1,1-Trichloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,1,2,2-Tetrachloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,1,2-Trichloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,1-Dichloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,1-Dichloroethene	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,2-Dichlorobenzene	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,2-Dichloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,2-Dichloropropane	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,3-Dichlorobenzene	<1	ug/L	1	11/9/2011 19:13:00	ES	
1,4-Dichlorobenzene	<1	ug/L	1	11/9/2011 19:13:00	ES	
2-Chloroethyl Vinyl Ether	<10	ug/L	10	11/9/2011 19:13:00	ES	
4-Methyl-2-pentanone	<1	ug/L	1	11/9/2011 19:13:00	ES	
Acrolein	<5	ug/L	5	11/9/2011 19:13:00	ES	
Acrylonitrile	<5	ug/L	5	11/9/2011 19:13:00	ES	
Benzene	<1	ug/L	1	11/9/2011 19:13:00	ES	
Bromodichloromethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
Bromoform	<1	ug/L	1	11/9/2011 19:13:00	ES	
Bromomethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
Carbon Tetrachloride	<1	ug/L	1	11/9/2011 19:13:00	ES	
Chlorobenzene	<1	ug/L	1	11/9/2011 19:13:00	ES	
Chlorodibromomethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
Chloroethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
Chloroform	<1	ug/L	1	11/9/2011 19:13:00	ES	
Chloromethane	<1	ug/L	1	11/9/2011 19:13:00	ES	
Cis-1,3-dichloropropene	<1	ug/L	1	11/9/2011 19:13:00	ES	
Ethyl Benzene	<1	ug/L	1	11/9/2011 19:13:00	ES	

ANALYTICAL DATA REPORT

UL ORDER ID **1108414**

UL Sample Number: 1108414-002
Grab Date/Time: N/A N/A
Composite Start: 11/2/11 01:00
Composite Stop: 11/2/11 24:00
Collected By: CLIENT

Sample Site: OF-001 Grab (RGWI)
Client Sample ID: OF-001 Grab (RGWI)
Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
Benzo (A) Anthracene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Benzo (A) Pyrene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Benzo (B) Fluoranthene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Benzo (GHI) Perylene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Benzo (K) Fluoranthene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Bis(2-chloroethoxy)methane	<5	ug/L	5	11/10/2011 01:00:00	BD	
Bis(2-chloroethyl)ether	<5	ug/L	5	11/10/2011 01:00:00	BD	
Bis(2-chloroisopropyl) Ether	<5	ug/L	5	11/10/2011 01:00:00	BD	
Bis(2-ethylhexyl) Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
Butyl Benzyl Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
Chrysene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Di-n-butyl Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
Di-n-octyl Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
DIBENZO (A,H)Anthracene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Diethyl Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
Dimethyl Phthalate	<5	ug/L	5	11/10/2011 01:00:00	BD	
Fluoranthene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Fluorene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Hexachlorobenzene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Hexachlorobutadiene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Hexachlorocyclopentadiene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Hexachloroethane	<5	ug/L	5	11/10/2011 01:00:00	BD	
Indeno(1,2,3-cd)pyrene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Isophorone	<5	ug/L	5	11/10/2011 01:00:00	BD	
N-Nitroso-di-n-propylamine	<5	ug/L	5	11/10/2011 01:00:00	BD	
N-Nitrosodimethylamine	<5	ug/L	5	11/10/2011 01:00:00	BD	
N-Nitrosodiphenylamine	<5	ug/L	5	11/10/2011 01:00:00	BD	
Naphthalene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Nitrobenzene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Pentachlorophenol	<5	ug/L	5	11/10/2011 01:00:00	BD	
Phenanthrene	<5	ug/L	5	11/10/2011 01:00:00	BD	
Phenol	<5	ug/L	5	11/10/2011 01:00:00	BD	

ANALYTICAL DATA REPORT

UL ORDER ID **1108414**

Analytical Methods Reference

VDEH Lab# 00030 (Hampton) VDEH Lab# 00065 (Fredricksburg) NCWW Lab # 543 (Hampton)
NCDW Lab # 51706 (Hampton) VELAP ID 460036 (Hampton)

Description:	*Prep Method:*	*Method*	*Reference*	*accredited/status*
Wastewater				
Silver (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Arsenic (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Beryllium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cadmium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cyanide (Total)	SEAL EPA 130 Δ	EPA 335.4		Accredited
Chromium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Copper (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Volatile Organic Compounds	EPA 624	EPA 624	40 CFR part 136 App. A	Accredited
Semi-Volatile Organic Compounds	EPA 625	EPA 625	40 CFR part 136 App. A	Accredited
Hardness as CaCO3	EPA 200.2	SM-2340 200.7	18th Edition	Accredited
Total Mercury		SM-3112 B	18th Edition	Accredited
Nickel (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Oil & Grease (HEM)		EPA 1664	40 CFR part 136 App. A	Accredited
Lead (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Phenolics (Total)	SEAL EPA 117 Δ	EPA 420.2		Accredited
Antimony (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Selenium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Thallium (Total)		EPA 200.7	40 CFR part 136 App. A	Accredited
Zinc (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited

NOTE: Analysis is performed according to Universal Laboratories Standard Operating Procedures which are based on the analytical methods referenced above

Universal Laboratories

[illegible] Hampton, VA
[illegible]

EXPRESS LOG-IN CHAIN OF CUSTODY

UL ORDER ID 1108414

Pre-Log Date: Monday, August 22, 2011

Samples Must Be Received on or Before:

Order Comment: 11/3/11

COFR City of Fredericksburg
1000 Tyler St. PO Box 7447
Fredericksburg Va 22404

ProjectID: Permit Application

Project Notes:

QuoteID: Q1108013
Permit Number:
ProjectLocation:

Customer Contact: Kimberly Klock
Phone Number:
FaxNumber: (540) 372-1089

1108414-001 OF-001 Composite (RGWI) **Sample Date/Time** 11/2/11 01:00 11/2/11 24:00 **Sampler Initials** CJ
Field Reading

Wastewater

								Container Type	Preservative
HRD	Hardness as CaCO3-EDTA							HDPE	HNO3 pH<2
AGIT	Silver (Total)	ASIT	Arsenic (Total)	BEIT	Beryllium (Total)	CDIT	Cadmium (Total)	HDPE (acid wash	HNO3 pH<2
CRIT	Chromium (Total)	CUIT	Copper (Total)	HG	Total Mercury	NIIT	Nickel (Total)		
PBIT	Lead (Total)	SBIT	Antimony (Total)	SEIT	Selenium (Total)	TLIT	Thallium (Total)		
ZNIT	Zinc (Total)								

1108414-002 OF-001 Grab (RGWI) **Sample Date/Time** 11/2/11 01:00 11/2/11 24:00 **Sampler Initials** CJ
Field Reading

Wastewater

		Container Type	Preservative
PHEN	Phenolics (Total)	Amber Glass	H2SO4 pH<2/4C
EPA 625	Semi-Volatile Organic Compounds	Amber Glass	Refrigerate, 4 C
CN	Cyanide (Total)	HDPE	NaOH pH>12
EPA 624	Volatile Organic Compounds	VOA	HCL pH<2/Ascorbic acid (
OGT	Oil & Grease (HEM)	WMG (solvent rins	H2SO4 pH<2/4C

Comments:

CN int check | Phenol in check | NH3 int check | BOD int check

Cooler Temp @ Log-in 3°C
Preservation < 2

Relinquished By Signature:		***Company:*** COF	***Date/Time:*** 11.3.11@0700
Received By Signature:		***Company:*** C.O.F.	***Date/Time:*** 11/3/11@0700
Relinquished By Signature:		***Company:*** C.O.F.	***Date/Time:*** 11/3/11@0900
Received By Signature:		***Company:*** C. of F.	***Date/Time:*** 11/3/11@0900
Relinquished By Signature:		***Company:*** C. of F	***Date/Time:*** 11/3/11@ 10:10
Received By Signature:		***Company:*** UL	***Date/Time:*** 11/3/11 10:10

UL 11/4/11 1435
CL 11/4/11 1435
JM

UNIVERSAL LABORATORIES

REPORT OF ANALYSIS

Order ID: 1108415

(REPORT DATE)
17-Oct-11

TO: City of Fredericksburg
1000 Tyler St. PO Box 7447

Fredericksburg Va 22404

ATTN: Kimberly Klock

FaxNumber: (540) 372-1089
E-MAIL

This report contains the analytical results for Project Id Permit Application designated as UL Order Id **1108415** and received on *Thursday, October 06, 2011*
The results contained in this report relate only to the samples identified on this order. The analytical results meet all requirements of NELAC unless specifically stated. This report shall not be reproduced except in full.

The data in this report has been reviewed and validated by:

Carol Kleemeier — Signature
Carol Kleemeier — Name
Pres/Technical Director — Title

ANALYTICAL DATA REPORT

UL ORDER ID **1108415**

UL Sample Number 1108415-002

Grab Date/Time: N/A N/A
Composite Start: 10/05/2011 01:00
Composite Stop: 10/05/2011 24:00
Collected By: CLIENT

Sample Site: OF-001 Grab (RGWI)
Client Sample ID: OF-001 Grab (RGWI)
Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
EPA 1664						
OIL and Grease (HEM)	<5	mg/L	5	10/13/2011 08:43:00	AB	
EPA 335.4						
Cyanide (Total)	<0.005	mg/L	0.005	10/14/2011 10:11:00	LS	
EPA 420.2						
Phenolics (Total)	<0.1	mg/L	0.1	10/10/2011 15:25:00	AB	*Run by SM 510 A/C*
EPA 624						
1,1,1-Trichloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,1,2,2-Tetrachloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,1,2-Trichloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,1-Dichloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,1-Dichloroethene	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,2-Dichlorobenzene	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,2-Dichloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,2-Dichloropropane	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,3-Dichlorobenzene	<1	ug/L	1	10/11/2011 19:08:00	ES	
1,4-Dichlorobenzene	<1	ug/L	1	10/11/2011 19:08:00	ES	
2-Chloroethyl Vinyl Ether	<10	ug/L	10	10/11/2011 19:08:00	ES	
4-Methyl-2-pentanone	<1	ug/L	1	10/11/2011 19:08:00	ES	
Acrolein	<5	ug/L	5	10/11/2011 19:08:00	ES	
Acrylonitrile	<5	ug/L	5	10/11/2011 19:08:00	ES	
Benzene	<1	ug/L	1	10/11/2011 19:08:00	ES	
Bromodichloromethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
Bromoform	<1	ug/L	1	10/11/2011 19:08:00	ES	
Bromomethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
Carbon Tetrachloride	<1	ug/L	1	10/11/2011 19:08:00	ES	
Chlorobenzene	<1	ug/L	1	10/11/2011 19:08:00	ES	
Chlorodibromomethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
Chloroethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
Chloroform	5	ug/L	1	10/11/2011 19:08:00	ES	
Chloromethane	<1	ug/L	1	10/11/2011 19:08:00	ES	
Cis-1,3-dichloropropene	<1	ug/L	1	10/11/2011 19:08:00	ES	
Ethyl Benzene	<1	ug/L	1	10/11/2011 19:08:00	ES	

ANALYTICAL DATA REPORT

UL ORDER ID **1108415**

UL Sample Number: 1108415-002
Grab Date/Time: N/A N/A
Composite Start: 10/05/2011 01:00
Composite Stop: 10/05/2011 24:00
Collected By: CLIENT

Sample Site: OF-001 Grab (RGWI)
Client Sample ID: OF-001 Grab (RGWI)
Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
Benzo (A) Anthracene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Benzo (A) Pyrene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Benzo (B) Fluoranthene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Benzo (GHI) Perylene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Benzo (K) Fluoranthene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Bis(2-chloroethoxy)methane	<5	ug/L	5	10/8/2011 13:02:00	BD	
Bis(2-chloroethyl)ether	<5	ug/L	5	10/8/2011 13:02:00	BD	
Bis(2-chloroisopropyl) Ether	<5	ug/L	5	10/8/2011 13:02:00	BD	
Bis(2-ethylhexyl) Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
Butyl Benzyl Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
Chrysene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Di-n-butyl Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
Di-n-octyl Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
DIBENZO (A,H)Anthracene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Diethyl Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
Dimethyl Phthalate	<5	ug/L	5	10/8/2011 13:02:00	BD	
Fluoranthene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Fluorene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Hexachlorobenzene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Hexachlorobutadiene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Hexachlorocyclopentadiene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Hexachloroethane	<5	ug/L	5	10/8/2011 13:02:00	BD	
Indeno(1,2,3-cd)pyrene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Isophorone	<5	ug/L	5	10/8/2011 13:02:00	BD	
N-Nitroso-di-n-propylamine	<5	ug/L	5	10/8/2011 13:02:00	BD	
N-Nitrosodimethylamine	<5	ug/L	5	10/8/2011 13:02:00	BD	
N-Nitrosodiphenylamine	<5	ug/L	5	10/8/2011 13:02:00	BD	
Naphthalene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Nitrobenzene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Pentachlorophenol	<5	ug/L	5	10/8/2011 13:02:00	BD	
Phenanthrene	<5	ug/L	5	10/8/2011 13:02:00	BD	
Phenol	<5	ug/L	5	10/8/2011 13:02:00	BD	

ANALYTICAL DATA REPORT

UL ORDER ID **1108415**

Analytical Methods Reference

VDEH Lab# 00030 (Hampton) VDEH Lab# 00065 (Fredricksburg) NCWW Lab # 543 (Hampton)
NCDW Lab # 51706 (Hampton) VELAP ID 460036 (Hampton)

Description:	*Prep Method:*	*Method*	*Reference*	*accredited/status*
Wastewater				
Silver (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Arsenic (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Beryllium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cadmium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cyanide (Total)	SEAL EPA 130 Δ	EPA 335.4		Accredited
Chromium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Copper (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Volatile Organic Compounds	EPA 624	EPA 624	40 CFR part 136 App. A	Accredited
Semi-Volatile Organic Compounds	EPA 625	EPA 625	40 CFR part 136 App. A	Accredited
Total Mercury		SM-3112 B	18th Edition	Accredited
Hardness as CaCO3-EDTA		SM-2340 C	18th Edition	Accredited
Nickel (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Oil & Grease (HEM)		EPA 1664	40 CFR part 136 App. A	Accredited
Lead (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Phenolics (Total)	SEAL EPA 117 Δ	EPA 420.2		Accredited
Antimony (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Selenium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Thallium (Total)		EPA 200.7	40 CFR part 136 App. A	Accredited
Zinc (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited

NOTE: Analysis is performed according to Universal Laboratories Standard Operating Procedures which are based on the analytical methods referenced above

Universal Laboratories

EXPRESS LOG-IN CHAIN OF CUSTODY

UL ORDER ID 1108415

Pre-Log Date: Monday, August 22, 2011

Samples Must Be Received on or Before:

Order Comment: WN 10/6/11

COFR City of Fredericksburg
1000 Tyler St. PO Box 7447
Fredericksburg Va 22404

Customer Contact: Kimberly Klock

Phone Number:

FaxNumber: (540) 372-1089

ProjectID: Permit Application

Project Notes:

QuoteID: Q1108013

Permit Number:

ProjectLocation:

1108415-001 OF-001 Composite (RGWI) **Sample Date/Time** 10/5/11 01:00 10/5/11 24:00 **Sampler Initials** CJ

Field Reading

Wastewater

								Container Type	Preservative
A	HRD	Hardness as CaCO3-EDTA						HDPE	HNO3 pH<2
B	AGIT	Silver (Total)	ASIT	Arsenic (Total)	BEIT	Beryllium (Total)	CDIT	Cadmium (Total)	HDPE (acid wash	HNO3 pH<2
	CRIT	Chromium (Total)	CUIT	Copper (Total)	HG	Total Mercury	NIIT	Nickel (Total)		
	PBIT	Lead (Total)	SBIT	Antimony (Total)	SEIT	Selenium (Total)	TLIT	Thallium (Total)		
	ZNIT	Zinc (Total)								

1108415-002 OF-001 Grab (RGWI) **Sample Date/Time** 10/5/11 01:00 10/5/11 24:00 **Sampler Initials** CJ

Field Reading

Wastewater

			Container Type	Preservative
A	PHEN	Phenolics (Total)	Amber Glass	H2SO4 pH<2/4C
B,L	EPA 625	Semi-Volatile Organic Compounds	Amber Glass	Refrigerate, 4 C
J	CN	Cyanide (Total)	HDPE	NaOH pH>12
E,F	EPA 624	Volatile Organic Compounds	VOA	HCL pH<2/Ascorbic acid (
G	OGT	Oil & Grease (HEM)	WMG (solvent rins	H2SO4 pH<2/4C

Comments:

CN int check | Phenol in check | NH3 int check | BOD int check

Cooler Temp @ Log-in 4°C

Preservation LZ

Relinquished By Signature:		***Company:*** CoF	***Date/Time:*** 10-6-11 @ 07:00
Received By Signature:	Ellis Co Conn	***Company:*** Co.O.F.	***Date/Time:*** 10/6/11 @ 0700
Relinquished By Signature:	Ellis Co Conn	***Company:*** Co.O.F.	***Date/Time:*** 10/6/11 @ 10:15
Received By Signature:		***Company:*** U.L	***Date/Time:*** 10-6-11 @ 10:15
Relinquished By Signature:		***Company:*** U.L	***Date/Time:*** 10/6/11 @ 10:45
Received By Signature:		***Company:*** UL	***Date/Time:*** 10/6/11 1040

Relinq Rec'd

UL C1 4

10/6/11 1215
10/6/11 1215
10-6-11 1N2C

UNIVERSAL LABORATORIES

REPORT OF ANALYSIS

Order ID: 1111334

(REPORT DATE)
03-Jan-12

TO: City of Fredericksburg
1000 Tyler St. PO Box 7447

Fredericksburg Va 22404
ATTN: Kimberly Klock

FaxNumber: (540) 372-1089
E-MAIL

This report contains the analytical results for Project Id Permit Application designated as UL Order Id **1111334** and received on *Thursday, December 22, 2011* The results contained in this report relate only to the samples identified on this order. The analytical results meet all requirements of NELAC unless specifically stated. This report shall not be reproduced except in full.

The data in this report has been reviewed and validated by:

Carol Kleemeier — Signature
Carol Kleemeier — Name
Pres/Technical Director — Title

ANALYTICAL DATA REPORT

UL ORDER ID **1111334**

UL Sample Number 1111334-002
Grab Date/Time: N/A N/A
Composite Start: 12/21/11 01:00
Composite Stop: 12/21/11 24:00
Collected By: CLIENT

Sample Site: OF-001 Composite (RGWI)
Client Sample ID: OF-001 Composite (RGWI)
Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
EPA 1664						
OIL and Grease (HEM)	<5	mg/L	5	12/27/2011 10:28:00	AB	
EPA 335.4						
Cyanide (Total)	<0.005	mg/L	0.005	12/30/2011 11:13:00	LS	
EPA 420.2						
Phenolics (Total)	<0.1	mg/L	0.1	12/23/2011 15:37:00	AB	*Run by SM 510 A/C*
EPA 624						
1,1,1-Trichloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,1,2,2-Tetrachloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,1,2-Trichloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,1-Dichloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,1-Dichloroethene	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,2-Dichlorobenzene	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,2-Dichloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,2-Dichloropropane	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,3-Dichlorobenzene	<1	ug/L	1	12/22/2011 21:02:00	ES	
1,4-Dichlorobenzene	<1	ug/L	1	12/22/2011 21:02:00	ES	
2-Chloroethyl Vinyl Ether	<10	ug/L	10	12/22/2011 21:02:00	ES	
4-Methyl-2-pentanone	<1	ug/L	1	12/22/2011 21:02:00	ES	
Acrolein	<5	ug/L	5	12/22/2011 21:02:00	ES	
Acrylonitrile	<5	ug/L	5	12/22/2011 21:02:00	ES	
Benzene	<1	ug/L	1	12/22/2011 21:02:00	ES	
Bromodichloromethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
Bromoform	<1	ug/L	1	12/22/2011 21:02:00	ES	
Bromomethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
Carbon Tetrachloride	<1	ug/L	1	12/22/2011 21:02:00	ES	
Chlorobenzene	<1	ug/L	1	12/22/2011 21:02:00	ES	
Chlorodibromomethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
Chloroethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
Chloroform	<1	ug/L	1	12/22/2011 21:02:00	ES	
Chloromethane	<1	ug/L	1	12/22/2011 21:02:00	ES	
Cis-1,3-dichloropropene	<1	ug/L	1	12/22/2011 21:02:00	ES	
Ethyl Benzene	<1	ug/L	1	12/22/2011 21:02:00	ES	

ANALYTICAL DATA REPORT

UL ORDER ID **1111334**

UL Sample Number 1111334-002

Grab Date/Time: N/A N/A

Composite Start: 12/21/11 01:00

Composite Stop: 12/21/11 24:00

Collected By: CLIENT

Sample Site: OF-001 Composite (RGWI)

Client Sample ID: OF-001 Composite (RGWI)

Sample Matrix: Wastewater

Parameter	Test Result	Units	RL	Analysis Date/Time	Analyst	Comment
Benzo (A) Anthracene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Benzo (A) Pyrene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Benzo (B) Fluoranthene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Benzo (GHI) Perylene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Benzo (K) Fluoranthene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Bis(2-chloroethoxy)methane	<5	ug/L	5	12/28/2011 17:55:00	BD	
Bis(2-chloroethyl)ether	<5	ug/L	5	12/28/2011 17:55:00	BD	
Bis(2-chloroisopropyl) Ether	<5	ug/L	5	12/28/2011 17:55:00	BD	
Bis(2-ethylhexyl) Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
Butyl Benzyl Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
Chrysene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Di-n-butyl Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
Di-n-octyl Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
DIBENZO (A,H)Anthracene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Diethyl Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
Dimethyl Phthalate	<5	ug/L	5	12/28/2011 17:55:00	BD	
Fluoranthene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Fluorene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Hexachlorobenzene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Hexachlorobutadiene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Hexachlorocyclopentadiene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Hexachloroethane	<5	ug/L	5	12/28/2011 17:55:00	BD	
Indeno(1,2,3-cd)pyrene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Isophorone	<5	ug/L	5	12/28/2011 17:55:00	BD	
N-Nitroso-di-n-propylamine	<5	ug/L	5	12/28/2011 17:55:00	BD	
N-Nitrosodimethylamine	<5	ug/L	5	12/28/2011 17:55:00	BD	
N-Nitrosodiphenylamine	<5	ug/L	5	12/28/2011 17:55:00	BD	
Naphthalene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Nitrobenzene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Pentachlorophenol	<5	ug/L	5	12/28/2011 17:55:00	BD	
Phenanthrene	<5	ug/L	5	12/28/2011 17:55:00	BD	
Phenol	<5	ug/L	5	12/28/2011 17:55:00	BD	

ANALYTICAL DATA REPORT

UL ORDER ID **1111334**

Analytical Methods Reference

VDEH Lab# 00030 (Hampton) VDEH Lab# 00065 (Fredricksburg) NCWW Lab # 543 (Hampton)
NCDW Lab # 51706 (Hampton) VELAP ID 460036 (Hampton)

Description:	*Prep Method:*	*Method*	*Reference*	*accredited/status*
Wastewater				
Silver (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Arsenic (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Beryllium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cadmium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Cyanide (Total)	SEAL EPA 130 ^	EPA 335.4		Accredited
Chromium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Copper (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Volatile Organic Compounds	EPA 624	EPA 624	40 CFR part 136 App. A	Accredited
Semi-Volatile Organic Compounds	EPA 625	EPA 625	40 CFR part 136 App. A	Accredited
Total Mercury		SM-3112 B	18th Edition	Accredited
Hardness as CaCO3-EDTA		SM-2340 C	18th Edition	Accredited
Nickel (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Oil & Grease (HEM)		EPA 1664	40 CFR part 136 App. A	Accredited
Lead (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Phenolics (Total)	SEAL EPA 117 Δ	EPA 420.2		Accredited
Antimony (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Selenium (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited
Thallium (Total)		EPA 200.7	40 CFR part 136 App. A	Accredited
Zinc (Total)	EPA 200.2	EPA 200.7	40 CFR part 136 App. A	Accredited

NOTE: Analysis is performed according to Universal Laboratories Standard Operating Procedures which are based on the analytical methods referenced above

Universal Laboratories

20 Research Drive Hampton, Va.
Phone: (757)-865-0880 Fax: (757) 865-8014

EXPRESS LOG-IN CHAIN OF CUSTODY

UL ORDER ID 1111334

Pre-Log Date: Monday, November 21, 2011

Samples Must Be Received on or Before:

Order Comment:

COFR City of Fredericksburg
1000 Tyler St. PO Box 7447
Fredericksburg Va 22404

ProjectID: Permit Application

Project Notes:

QuoteID: Q1108013
Permit Number:
ProjectLocation:

Customer Contact: Kimberly Klock
Phone Number: (540) 372-1089
FaxNumber: (540) 372-1089

1111334-001 **OF-001 Composite (RGWI)** **Sample Date/Time** 12/21/11 01:00 12/21/11 24:00 **Sampler Initials** GM/HP

Field Reading

Wastewater

								Container Type	Preservative
HRD	Hardness as CaCO3-EDTA							HDPE	HNO3 pH<2
AGIT	Silver (Total)	ASIT	Arsenic (Total)	BEIT	Beryllium (Total)	CDIT	Cadmium (Total)	HDPE (acid wash	HNO3 pH<2
CRIT	Chromium (Total)	CUIT	Copper (Total)	HG	Total Mercury	NIIT	Nickel (Total)		
PBIT	Lead (Total)	SBIT	Antimony (Total)	SEIT	Selenium (Total)	TLIT	Thallium (Total)		
ZNIT	Zinc (Total)								

1111334-002 **OF-001 Grab (RGWI)** **Sample Date/Time** 12/21/11 01:00 12/21/11 24:00 **Sampler Initials** GM/HP

Field Reading

Wastewater

		Container Type	Preservative
PHEN	Phenolics (Total)	Amber Glass	H2SO4 pH<2/4C
EPA 625	Semi-Volatile Organic Compounds	Amber Glass	Refrigerate, 4 C
CN	Cyanide (Total)	HDPE	NaOH pH>12
EPA 624	Volatile Organic Compounds	VOA	HCL pH<2/Ascorbic acid (
OGT	Oil & Grease (HEM)	WMG (solvent rins	H2SO4 pH<2/4C

Comments: TRIP BLANK 11/21/11 4400 SES

CN int check

Phenol in check Clear/NO Yellow

NH3 int check

BOD int check

Cooler Temp @ Log-in 1°C

Preservation Yes

Relinquished By Signature:	**Company:** COF	**Date/Time:** 12/22/11 @ 0700
Received By Signature:	**Company:** COF	**Date/Time:** 12-22-11 @ 0700
Relinquished By Signature:	**Company:** COF	**Date/Time:** 12-22-11 @ 10:07
Received By Signature:	**Company:** U.L	**Date/Time:** 12/22/11 10:07
Relinquished By Signature:	**Company:** U.L	**Date/Time:** 12/22/11 @ 12:30
Received By Signature:	**Company:** U.L	**Date/Time:** 12/22/11 12:37